

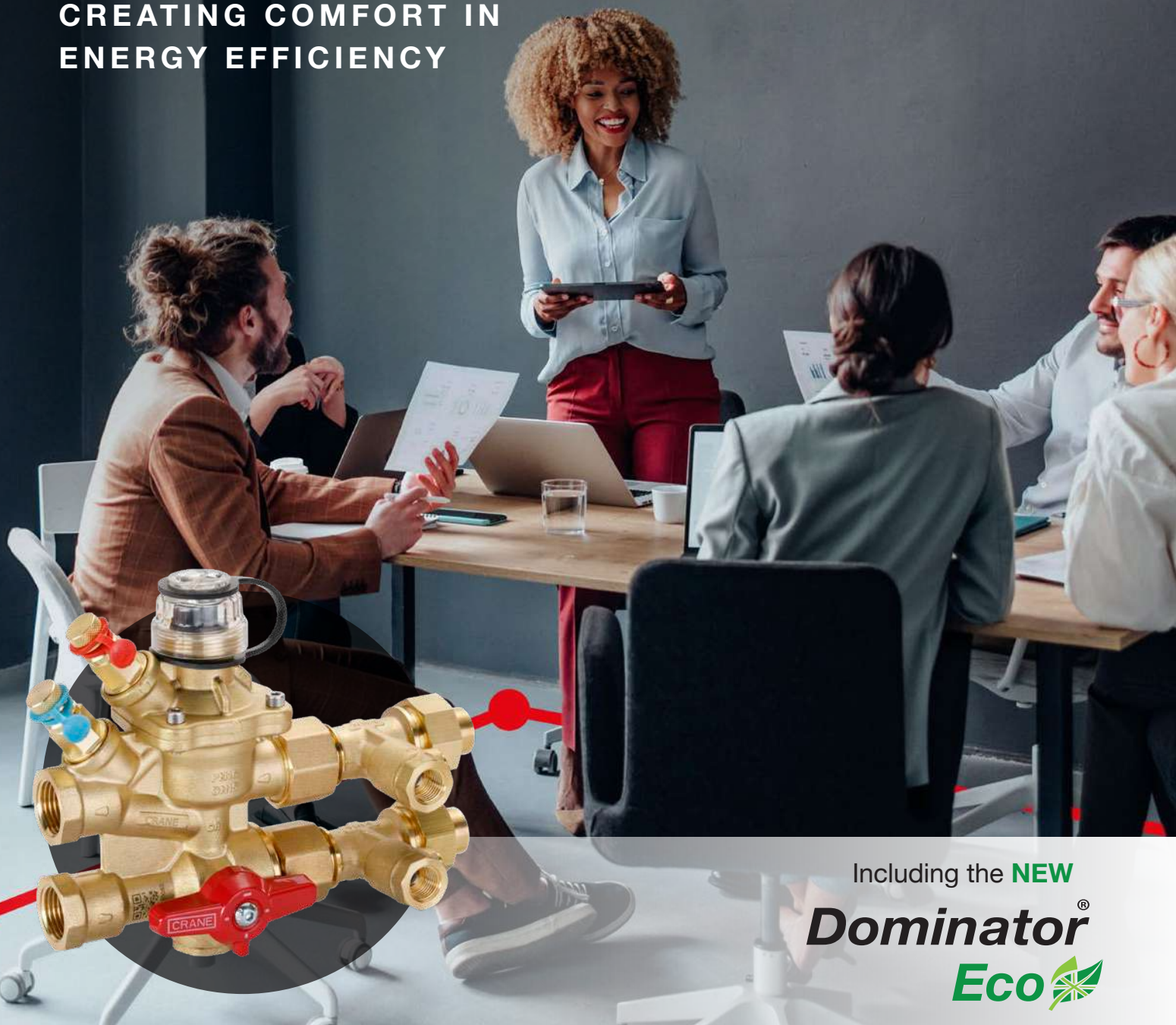
CRANE

FLUID SYSTEMS

PICV & DOMINATOR

FOR VARIABLE FLOW SYSTEMS

CREATING COMFORT IN
ENERGY EFFICIENCY



Including the **NEW**
Dominator[®]
Eco 

CRANE

BUILDING SERVICES & UTILITIES

ProBalance

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Qatar National Rail Scheme, Qatar

The Rail Doha scheme consists of a 300-kilometre metro network with four lines (red, gold, green & blue) with 80 stations; and light rail networks serving residential developments, such as Lusail, Education City and West Bay. The Lusail LRT (Light Rail) project consist of four lines totalling 30km, 8 underground stations and 25 at-grade stations. Red Line North will extend approximately 13 km northward from Musherib station, and has 7 underground stations. Two parallel tunnels will be excavated for a length of about 11.6 km and an internal diameter of 6.17 metres. Red Line South has 12 km long underground sections between Doha City Centre and the Airport. Green Line, has 15 km long underground sections which run north-south through the city. An over-ground extension to the underground tunnel section will have a total length of 3.2 km, of which 2.7 km will be a bridge from prefabricated components.

LOCATION

Qatar

CLIENT

Qatar Railways Development Company

CONSULTANTS

Jacobs Engineering, Louis Berger, Egis, Hill Int'l, Italferr SpA, WSP Parsons, Brinckerhoff, Astad, Atkins.

CHANNEL PARTNER

AlRiyadh Trading & Contracting

CONTRACTORS

ANEL MEP, Redco Int'l, Abantia, ALYSJ joint venture, Saudi Bin Laden Group/Porr/HBK JV, TCS.

SPECIFICATION

Crane FS Pressure Independent Control Valves PICV, Balancing Valves & a wide selection of General Valves and Strainers.

WHY CHOOSE THE CRANE FS PICV?

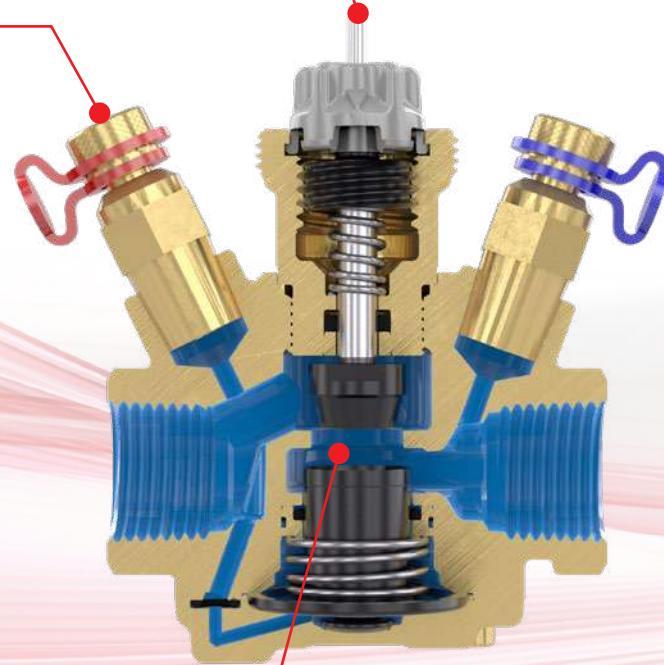
SIMPLE FLOW SETTING DIAL

- Easy to set by hand for commissioning purposes
- Quick fit actuator connection - no tools required

FLOW CONTROL

- Accurate over a wide ΔP range – up to 800 kPa
- Guaranteed performance & repeatability – hassle free commissioning
- Linear or equal percentage control available through actuator offering flexibility on site
- Class IV leakage
- Flow range 0.008-1.730l/s

Note: Applicable to DN15 only.



QUALITY

- These valves have been categorised in accordance with the PED (The fluid to be transported is limited to group 2 liquids i.e. non-hazardous. On no account must these valves be used on any group 1 liquids, group 1 gases or group 2 gases.)
- Comprehensive testing undertaken for each valve – pressure tested to BS EN 12266-1 and performance tested in accordance with BSRIA BTS01 (10,000 cycles test which is equal to a design life of 15 years)
- Pressure tested to BS EN 12266-1
- Performance tested in accordance with BSRIA BTS01



Peak *Pro*™

PRESSURE INDEPENDENT CONTROL VALVE

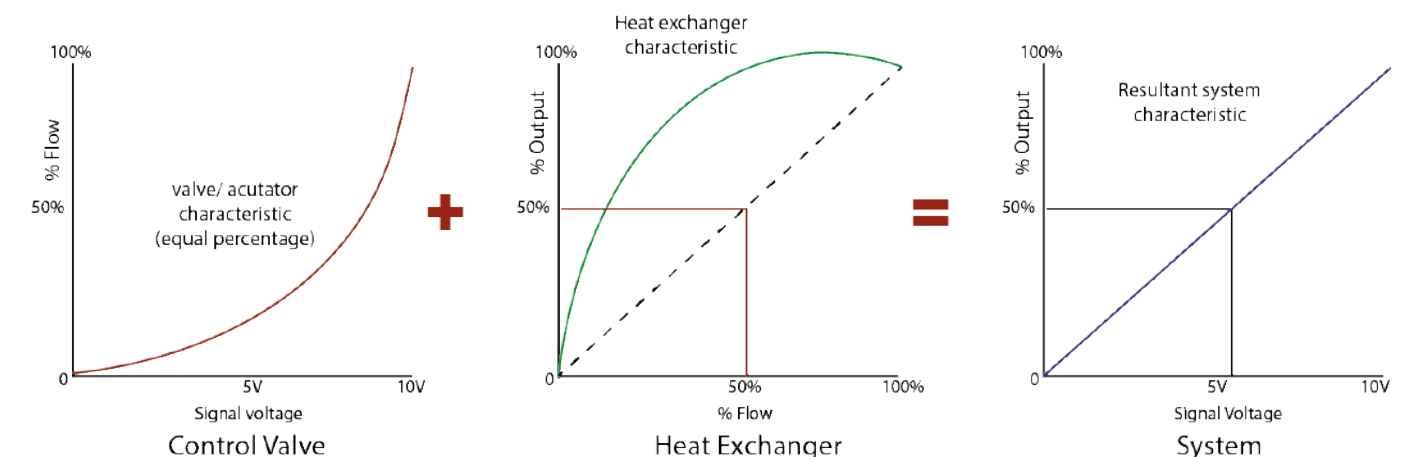
In modern Building Services projects, the desire for energy efficiency is a primary consideration for designers, installers, manufacturers, and end users. HVAC systems offer an excellent opportunity for energy savings if the correct products are specified, selected and installed and the use of these products is clearly understood. For installations incorporating items such as fan coil units (FCU) or chilled beams, the Crane Fluid Systems PICV offers an excellent solution for control of water flow rates, and therefore comfort control and energy savings when used as part of a variable volume system design. For the installer, we offer a range of solutions which are easy to select, install and commission.

Developed in the UK, tested to BSRIA PICV standards and utilising high-quality materials, these valves can provide equal percentage performance which delivers optimum control valve authority. Crane FS go further to give you the flexibility, offering various actuator options and measuring points, along with a wide differential pressure and flow rate range available.

All these factors combine to ensure our product will help you to design, deliver and maintain a system, which closes the performance gap and enables energy and cost reduction over its lifetime.

Control Characteristics

The D995 Peak Pro PICV is designed with a linear control characteristic to ensure good control over the flow rate at all settings. Our intelligent actuator controls the linear valve characteristics to an equal percentage characteristic at all valve settings.



HOW DOES THE CRANE FS PICV WORK?

1. Differential Pressure Control

As the flow rates in the distribution pipework fluctuate to match demand, the available pressure at individual terminal units varies. This variation in available pressure has the effect of changing the flow rate through the terminal sub-circuit, i.e. an increase in pressure gives an increased flow rate.

To negate these fluctuating pressures, the PICV maintains a constant pressure drop across its seat P1 to P2, therefore maintaining a constant flow rate to the terminal.

2. Flow Regulation

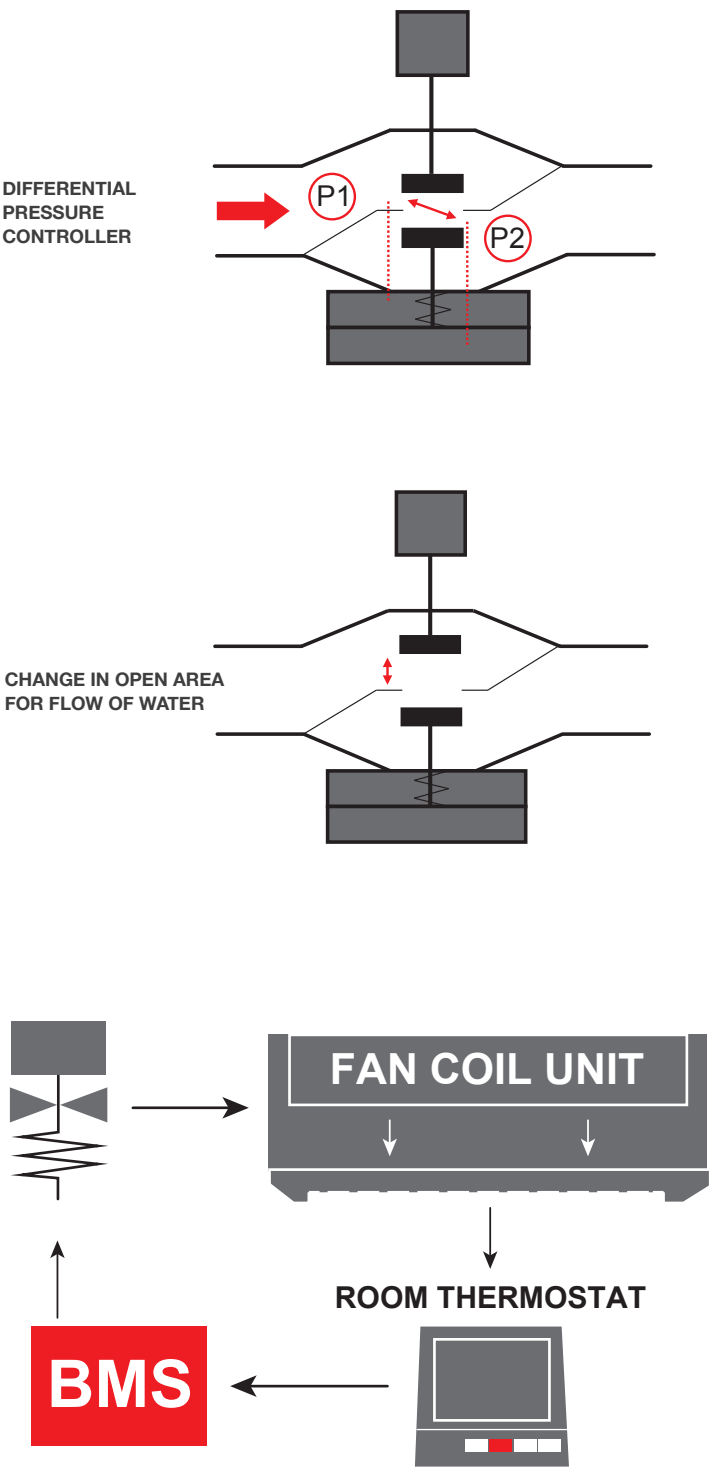
By changing the open space, through which the water flows within the valve, the flow rate can be adjusted and set. The pressure across the seat of the PICV is held constant by the differential pressure controller. Whilst setting, the open area around the disk will change, resulting in a change to the flow rate. The new set flow rate recreates the constant seat differential pressure P1 to P2. Having set a new flow rate, it will stay constant at the new set value.

3. Comfort Control

The use of a PICV, as with all 2 port control valves, allows for the variation of the flow rate to vary the heat output of the terminal unit. The PICV is an integral part of the control loop.

4. Thermostat, BMS, PICV & Terminal Unit

By varying the flow rate we can control the heat output of the terminal. For PICVs with an equal percentage characteristic, there is a direct relationship between valve position and heat output, i.e. half open = half heat output.



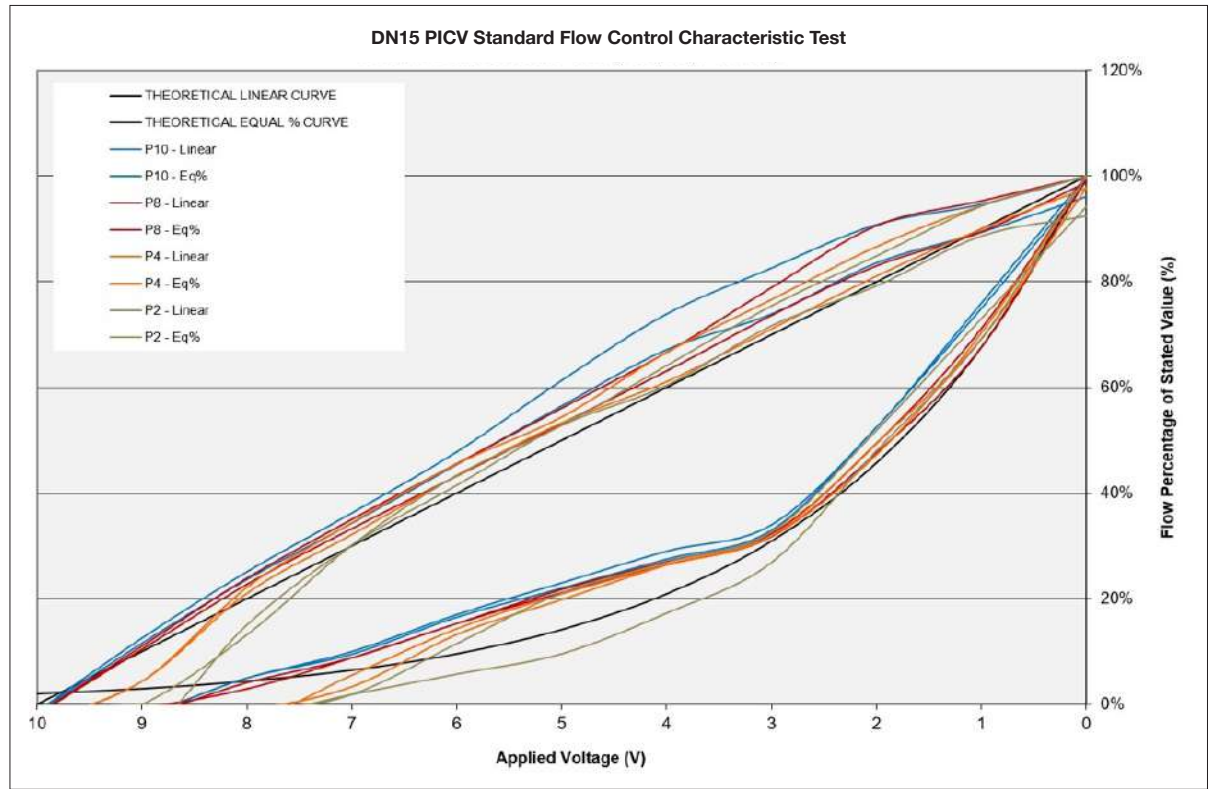
TECHNICAL DESCRIPTION SUMMARY

APPLICATION	DIFFERENTIAL PRESSURE		VARIANTS / FLOW RANGE
Heating and cooling hydronic systems.	Activation up to 800kPa		Peak Pro PICV
FUNCTIONS: Flow Control - Equal percentage control characteristics (default) - Linear control characteristic - Both available with position Feedback signal - Multiple control signal compatibility	Activation		DN15
	DN15	LF 20 kPa	LF 0.008 – 0.080 l/s
		SF 25 kPa	SF 0.060 – 0.200 l/s
		HF 50 kPa	HF 0.010 – 0.370 l/s
	DN20	SF 27kPa	DN20
LEAKAGE RATE: Class IV to EN 1349 0.01% of stated max flow LF Class III (0.1% of Kv Max) SF Class IV (0.01% of Kv Max) HF Class IV (0.01% of Kv Max)	DN20	HF 40kPa	SF 0.070-0.350 l/s
	DN25	SF 40kPa	HF 0.075-0.420 l/s
		HF 70kPa	DN25
	DN32	SF 65kPa	SF 0.120-0.600 l/s
		HF 70kPa	HF 0.360-0.850 l/s
TEMPERATURE RANGE: 0°C to 90°C	DN40	SF 50kPa	DN32
	DN50	SF 40kPa	SF 0.52-1.35 l/s
			HF 0.63-1.73 l/s
			DN40
			SF 0.39-3.00 l/s
			DN50
			SF 0.69-3.80 l/s
			Dominator Peak Pro
			DN15 X DN15
			DN20 X DN20
			DN25 X DN25

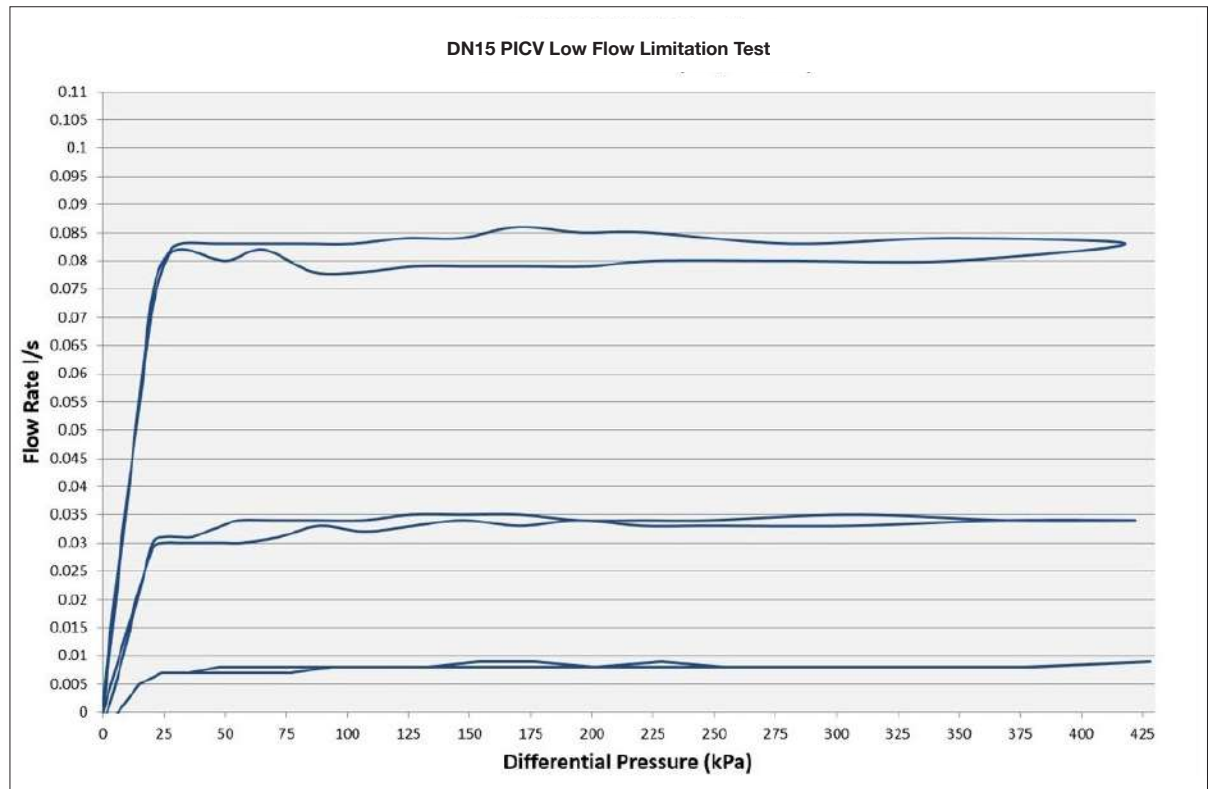


EXAMPLE FLOW PERFORMANCE GRAPHS

Peak Pro Pressure Independent Control Valve



Control Characteristics Test Data



D995 DN15-20-25

Pressure Independent Control Valve

Peak **Pro**

PN25

Features & Benefits

toBalance

- Comprehensive flow range available, allowing for cost effective valve selections. The PICV Peak Pro has up to 70% higher max flow compared to the previous model
- Accurate over a wide ΔP range - available in both 400 and 800kPa variants
- Class IV leakage*
- PN25 rated product, suitable for high pressure applications
- Design validation testing to BSRIA BTS01. As per Cyclic Testing requirements, valve subjected to 10,000 cycles (equivalent to 15 years** of typical service)
- Comprehensive testing undertaken for each valve - pressure tested to BS EN 12266-1
- Integral test points for verification of ΔP and valve performance
- Built in convoluted integral diaphragm
- Smaller and lighter design suits applications with a small footprint

Materials

No.	Part	Material
1	Body	DZR Brass BS EN 12165 (CW602N)
2	Bonnet	DZR Brass BS EN 12165 (CW602N)
3	End Cap	DZR Brass BS EN 12165 (CW602N)
4	P84 Test Point	DZR Brass BS EN 12165 (CW602N)
5	Setting Dial	Nylon 6
6	DP Controller	Stainless Steel 303
7	Springs	Stainless Steel 302
8	Diaphragm	EPDM
9	O-Rings	EPDM
10	O-Ring Insert	DZR Brass BS EN 12165 (CW602N)
11	Stern	Stainless Steel 303

*DN15 LF Class 3 **based on two full stroke cycles per day

Dimension & Weights

	A (mm)	B (mm)	C (mm)	C2 (mm)	D (mm)	End Connections	Weight (kg)
DN15	74	36	63	120	27	½" BSP Female Taper to BS EN 10226-2	0.52
DN20	90	47	75	130	30	¾" BSP Female Taper to BS EN 10226-2	0.82
DN25	112	63	75	130	51	1" BSP Female Taper to BS EN 10226-2	1.55

Flow Range

	Low Flow (l/s)	STD Flow (l/s)	High Flow (l/s)
DN15	0.008-0.080	0.060 - 0.200	0.10 - 0.370
DN20	-	0.070 - 0.350	0.075 - 0.420
DN25	-	0.120 - 0.600	0.360 - 0.850

Pressure/Temperature Ratings

Temperature (°C)	0°C to 90°C
Pressure (Bar)	25 Bar

PRESSURE RATING: PN25

MEDIUM: Group 2 Liquids

END CONNECTIONS:
BSP Female Taper to BS EN 10226-2

SPECIFICATION: The PICV shall have a constant control characteristic at all flow settings and control flow rates at differential pressures up to 800kPa. Flow rates will be externally adjustable, and set point recordable. Integral test points will be fitted to verify setting pressure allowing pumps to be set at optimum speed to maximise energy savings. Shall be manufactured from DZR Brass, with Stainless Steel springs, and an EPDM diaphragm. Shall be rated to PN25 and operate at temperatures to 90°C. As per Crane FS Peak Pro (Fig D995).

SPARES: Isolating cap part number 0ED13666H.

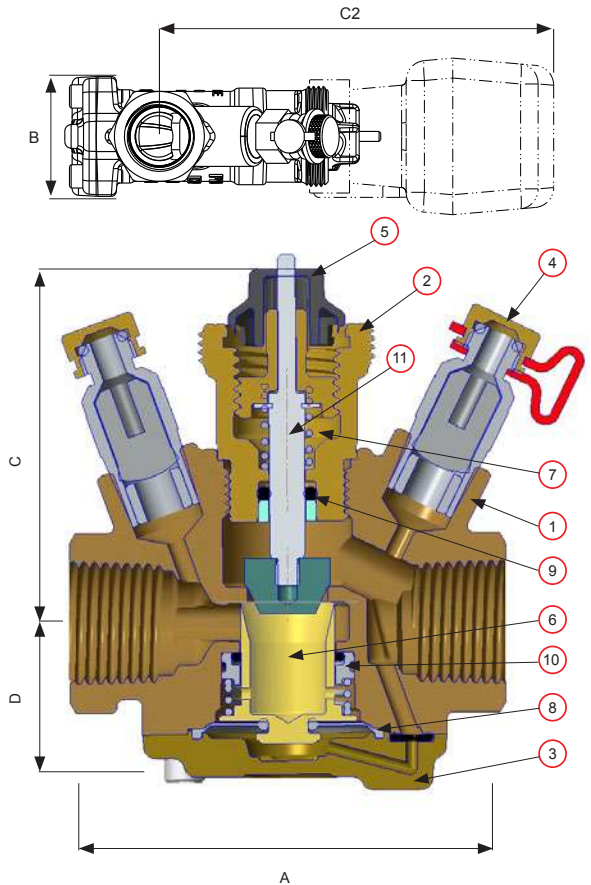
Peak **Pro**
PICV

BSRIA



banstore

Dimensional Drawings



Differential Pressure Range

	Low Flow (kPa)	STD Flow (kPa)	High Flow (kPa)
DN15	20-400 20-800	25-400 20-800	40-400 40-800
DN20	- -	27-400 27-800	40-400 40-800
DN25	- -	40-400 40-800	70-400 70-800

Please request max ΔP on order

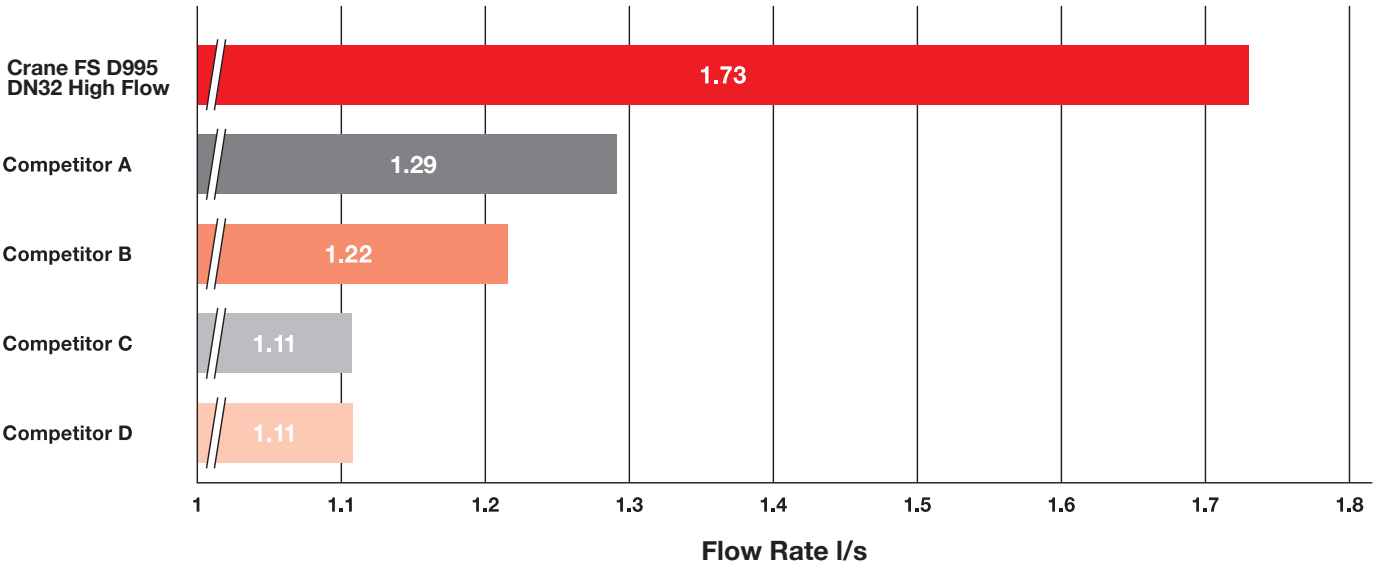
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Made in
Britain

Next Generation PICV D995 DN32

Peak Pro
High performance valve
with greater flow rates.

BEST IN CLASS - FLOW RATE vs SIZE¹



FEATURES & BENEFITS

- Low activation & low hysteresis are consistent across the operating range. The PICV responds quickly to maintain a consistent flow which improves pump efficiency, resulting in energy savings & lower running costs.
- Excellent performance coverage from the DN32 ensures smaller pipework can be specified, compared to using larger sized valves. A real saving for the contractor & end user.
- Reductions in weight and footprint allow the valves to be used within smaller voids.
- Available with a range of actuators to suit fan coil units and chilled beam applications.



FLOW MEASUREMENT

- The PICV Peak Pro has up to 80% higher max flow compared to the previous model
- Accurate over a wide ΔP range - up to 800kPa

PERFORMANCE

- Comprehensive testing undertaken for each valve - pressure tested to BS EN 12266-1
- PN16 rated product
- Flow Range
Standard Flow: 0.53 - 1.35 l/s
High Flow: 0.62 - 1.73 l/s

DESIGN

- Design validation testing to BSRIA BTS01. As per cyclic testing requirements, valve subjected to 10,000 cycles (equivalent to 15 years² of typical service)
- Integral test points for verification of ΔP and valve performance

D995 DN32

Pressure Independent Control Valve

Peak Pro
PN16

Features & Benefits

- Comprehensive flow range available, allowing for cost effective valve selections. The PICV Peak Pro has up to 80% higher max flow compared to the previous model
 - Accurate over a wide ΔP range - up to 800kPa
 - Class IV leakage
 - PN16 rated product, suitable for high pressure applications
 - Design validation testing to BSRIA BTS01. As per Cyclic Testing requirements, valve subjected to 10,000 cycles (equivalent to 15 years* of typical service)
 - Comprehensive testing undertaken for each valve - pressure tested to BS EN 12266-1
 - Integral test points for verification of ΔP and valve performance
 - Built in convoluted integral diaphragm
 - Smaller and lighter design suits applications with a small footprint
- *based on two full stroke cycles per day

Materials

No.	Part	Material
1	Body	DZR Brass BS EN 12165 (CW602N)
2	Bonnet	DZR Brass BS EN 12165 (CW602N)
3	End Cap	DZR Brass BS EN 12165 (CW602N)
4	P84 Test Point	DZR Brass BS EN 12165 (CW602N)
5	Setting Dial	Nylon 6
6	DP Controller	Stainless Steel 303
7	Springs	Stainless Steel 302
8	Diaphragm	EPDM
9	O-Rings	EPDM
10	O-Ring Insert	DZR Brass BS EN 12165 (CW602N)
11	Stem	Stainless Steel 303

Dimension & Weights

	A (mm)	B (mm)	C (mm)	C2 (mm)	D (mm)	End Connections	Weight (kg)
DN32	135	100	76	135	56	1-1/4" BSP Taper	2.3

Flow Range

	STD Flow (l/s)	High Flow (l/s)
DN32	0.52-1.35	0.63-1.73

Pressure/Temperature Ratings

Temperature (°C)	0°C to 90°C
Pressure (Bar)	16 Bar

PRESSURE RATING: PN16

MEDIUM: Group 2 Liquids

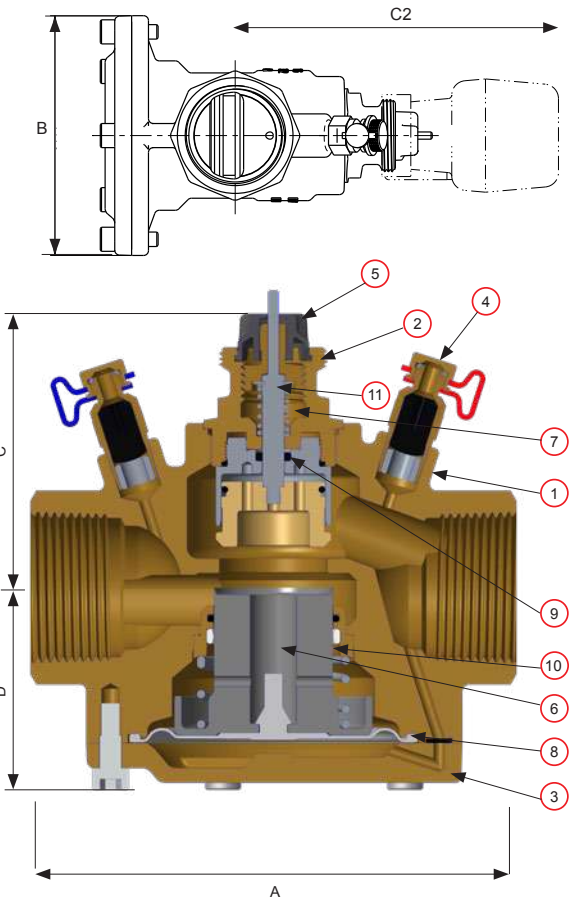
END CONNECTIONS:
BSP Female Taper to BS EN 10226-2

SPECIFICATION: The PICV shall have a constant control characteristic at all flow settings and control flow rates at differential pressures up to 800kPa. Flow rates will be externally adjustable, and set point recordable. Integral test points will be fitted to verify setting pressure allowing pumps to be set at optimum speed to maximise energy savings. Shall be manufactured from DZR Brass, with Stainless Steel springs, and an EPDM diaphragm. Shall be rated to PN16 and operate at temperatures to 90°C. As per Crane FS Peak Pro (Fig D995).

SPARES: Isolating cap part number 0ED13666H.



Dimensional Drawings



Differential Pressure Range

	STD Flow (kPa)	High Flow (kPa)
DN32	65-800	70-800

¹Data sourced from published competitor flow rates as of February 2021.

²Based on two full stroke cycles per day

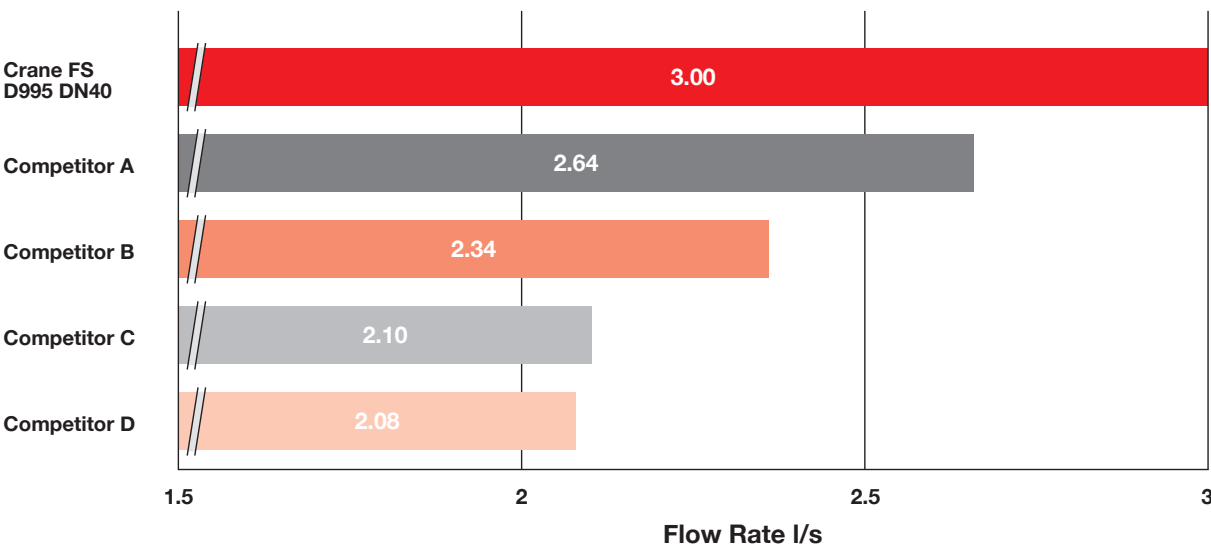
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Next Generation PICV D995 DN40 & DN50

NEW

DN40 BEST IN CLASS - FLOW RATE vs SIZE¹



FEATURES & BENEFITS

Low Activaton

The PICV responds very quickly to maintain a consistent flow, ultimately improving pump efficiency, helping reduce energy usage across the system, resulting in energy savings and lower running costs.

Low Hysteresis & Great Control

The impact of high hysteresis can result in an inefficient systems that can cause a time delay in temperature settings that will affect the environment that you are in.

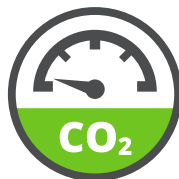
With low hysteresis and great control the PICV ensures the system can respond quickly and efficiently resulting in a comfortable environment for the end user and ultimately reducing energy consumption.

Compact Design, Better For The Planet

The new D995 Peak Pro PICV DN40 & DN50 are lighter than the previous models, reducing its carbon footprint (Scope3 emissions), but offers higher maximum flow rates.

- DN40 - 20% weight reduction
- DN50 - 37% weight reduction

Less raw materials, eco-friendly packaging and lower freight impact all contribute to limit CO2 emissions.



D995 DN40 & DN50

Pressure Independent Control Valve

PN16

Features & Benefits

- Comprehensive flow range available, allowing for cost effective valve selections. The PICV Peak Pro has up to 25% higher max flow compared to the previous model
- Accurate over a wide ΔP range - up to 800kPa
- Class IV leakage
- PN16 rated product, suitable for high pressure applications
- Design validation testing to BSRIA BTS01. As per Cyclic Testing requirements, valve subjected to 10,000 cycles (equivalent to 15 years* of typical service)
- Comprehensive testing undertaken for each valve - pressure tested to BS EN 12266-1
- Integral test points for verification of ΔP and valve performance
- Built in convoluted integral diaphragm
- Smaller and lighter design suits applications with a small footprint

*based on two full stroke cycles per day

Materials

No.	Part	Material
1	Body	Bronze BS EN 1982 (CC491K)
2	Bonnet	Bronze BS EN 1982 (CC491K)
3	End Cap	Bronze BS EN 1982 (CC491K)
4	P84 Test Point	DZR Brass BS EN 12165 (CW602N)
5	Setting Dial	Nylon 6
6	DP Controller	Stainless Steel 303
7	Springs	Stainless Steel 302
8	Diaphragm	EPDM
9	O-Rings	EPDM
10	O-Ring Insert	Stainless Steel 303S
11	Stem	Stainless Steel 303S

Dimensions & Weights

Size (DN)	A (mm)	B (mm)	C1 (mm)	C2 (mm)	D (mm)	E (mm)	End Connections	Weight (kg)
DN40	137.1	118	94	145	104	72	1 1/2" BSP Female Taper to BS EN 10226	3.60
DN50	161.5	118	99	150	106.5	78	2" BSP Female Taper to BS EN 10226	4.25

Flow Range

Size (DN)	Flow (l/s)
DN40	0.39 - 3.00
DN50	0.69 - 3.80

Differential Pressure Range

Size (DN)	Flow (kPa)
DN40	50 - 800 kPa
DN50	40 - 800 kPa

PRESSURE RATING: PN16

END CONNECTIONS:
BSP Female Taper to BS EN 10226-2

MEDIUM: Group 2 Liquids

SPECIFICATION: The PICV shall have a constant control characteristic at all flow settings and control flow rates at differential pressures up to 800kPa. Flow rates will be externally adjustable, and set point recordable. Integral test points will be fitted to verify setting pressure allowing pumps to be set at optimum speed to maximise energy savings. Shall be manufactured from Bronze (CC491K), with Stainless Steel springs, and an EPDM diaphragm. Shall be rated to PN16 and operate at temperatures to 90°C. As per Crane FS Peak Pro (Fig D995).

SPARES: Isolating cap part number 0ED13666H

Peak Pro
PICV

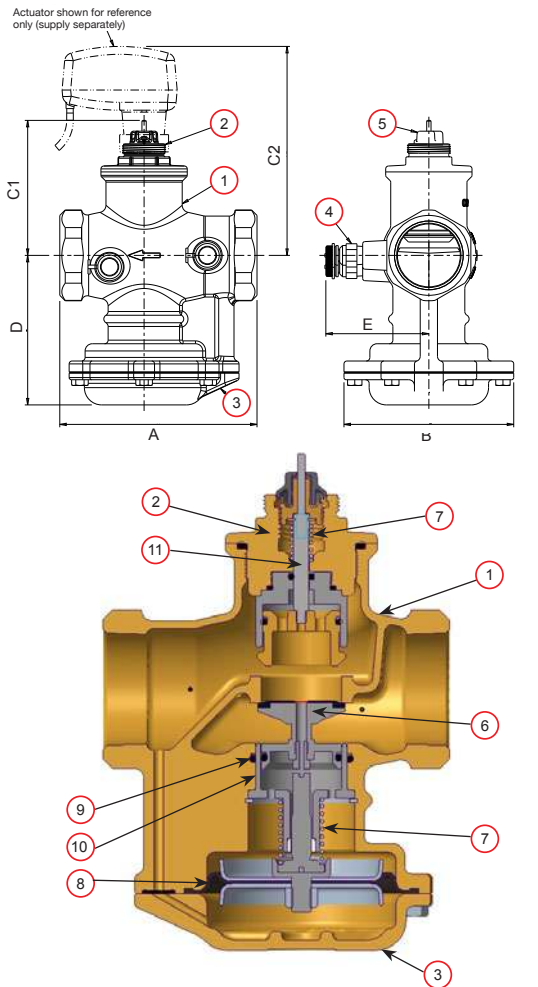
VARIABLE FLOW



BSRIA

bunstore

Dimensional Drawing



Pressure/Temperature Ratings

Temperature (°C)	0°C to 90°C
Pressure (Bar)	16

¹DN40 Data sourced from published competitor flow rates as of September 2021.

²Based on two full stroke cycles per day

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DPIC992F DN50-DN150

Pressure Independent Control Valves PN16

Features & Benefits

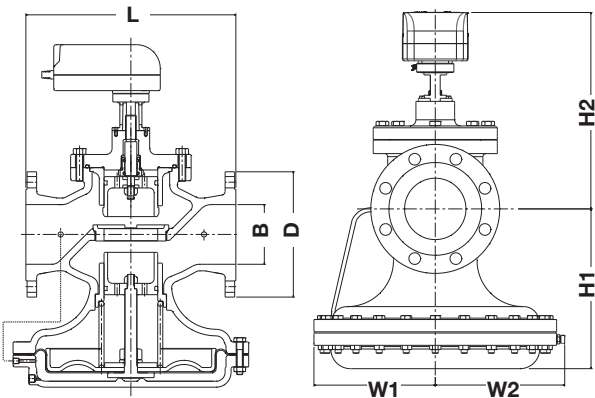
- Optimal control creates energy savings when used as part of a variable flow system.
- Easy to install in limited and difficult site conditions, for use with large plant items such as air Handling Units (AHU)
- Built-in differential pressure controller ensures accurate system design flow rates are achieved and eliminates overflows caused by fluctuating system pressures, which in turn reduces the system running costs.
- No balancing method needed for commissioning, saving time on site
- Linear or equal percentage characteristics, settable with an actuator, contribute to precise environmental temperature control
- Constant, high valve authority for maximum efficiency, available in sizes: DN50 to DN150



banstore

Materials

No.	Part	Material	Specification
1	Body	Ductile Iron	EN-GJS-450-10 (GCD450)
2	Bonnet	Ductile Iron	EN-GJS-450-10 (GCD450)
3	Bottom Cover	Ductile Iron	EN-GJS-450-10 (GCD450)
4	O-Rings	EPDM	-
Flow Controller			
5	Seat	Bronze	BS EN 1982: CC491K
6	Plug	Bronze	BS EN 1982: CC491K
7	Stem	Stainless Steel	304S15 / 1.4301
8	Bearing Sleeve	Nylon	PA66
9	Guide Bush	Stainless Steel	304S15 / 1.4301
Pressure Controller			
11	Plug / Stem / Guide	Nylon	PA66
12	Diaphragm	EPDM	-
13	Diaphragm Plate	Stainless Steel	304S15 / 1.4301
14	Springs	Spring Steel	-



Note: This Valve is designed to function only with the actuator fitted and cannot be used as a Constant Flow Regulator i.e. without the actuator fitted.

All dimensions are nominal.

Dimensions & Weights

Size (DN)	L (mm)	W1 (mm)	W2 (mm)	H1 (mm)	H2 (mm)	D (mm)	B (mm)	Weight (kg)	Max Flow Rate (m3/hr)
DN50	254	139	154	101	291	165	50	33	20
DN65	272	139	154	185	300	185	65	40	30
DN80	272	139	154	185	300	200	65	43	30
DN100	352	139	212	260	320	220	100	74	55
DN125	400	139	212	266	346	250	125	93	90
DN150	451	139	212	350	400	285	150	162	150

Pressure/Temperature Ratings

Temperature (°C)	5°C to 120°C
Pressure (Bar)	16
Operating Pressure Range Across Valve (kPa)	50-400 at 100% Flow 40-400 at 80% Flow 30-400 at 30% Flow

PRESSURE RATING: PN16

END CONNECTIONS: Flanges to BS EN 1092-2 PN16

OPERATOR: Actuator supplied and fitted. Can be configured to Modulating / 3 Point / On-Off Linear and Equal Percentage control characteristic

IP RATING: IP54

FLOW ACCURACY: +/-10%

SEAT LEAKAGE: LINEAR: Class IV (0.01% of Max flow)
Equal %: 2% of Max Flow



103 Colmore Row, Birmingham

103 Colmore Row is Birmingham’s tallest office building at 105.5 metres (346 feet) high and with the apex to stand 246 metres above sea level, the new tower and is the tallest in the UK outside London. Designed by Doone Silver Architects. Comprising 223,631 sq ft of BREEAM Excellent Grade A office space, the 26 storey building, boasts a four storey winter garden, along with a two storey top floor restaurants and a ground floor café.

As part of Birmingham City Council’s climate change strategy, 103 Colmore is the first commercial office development in Birmingham’s central business district to benefit from the city’s new District Energy Scheme which aims to cut CO₂ emissions by 60 per cent by 2027.

In line with the buildings strategy for reduced energy consumption and to keep C02 emissions low, principal contractor BAM selected Dominator Peak Pro Units to be installed throughout the building. By selecting the

Dominator, this ensures a perfect working environment for all users of the building.

Dominator Peak Pro is a lightweight and modular valve system that includes the Peak Pro Pressure Independent Control Valve for accurate flow, temperature and pressure control. By utilising the Crane FS Peak Pro PICV, the project has been provided the best opportunity to realise operational cost savings and increased energy efficiency. The PICV has excellent accuracy and hysteresis, which helps maintain the set flow rate and limit the occurrences of overflow.

The use of the Crane FS Gap Detection actuator allowed for further operational cost savings by giving excellent valve authority and controllability at all valve settings. This ensures that a change in valve position translates into a change in flow rate/pump speed and therefore realised energy savings.

LOCATION

Birmingham

SECTOR

Commercial

CLIENT

Rockspring Property Investment Managers LLP and Sterling Property Ventures

ARCHITECTS

Doone Silver Kerr

CONTRACTORS

BAM

DISTRIBUTOR

BSS



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Dominator[®] Eco



Focused on sustainability

Reduced Embodied Carbon

The Dominator Eco's innovative design combines a PICV, H-body and FMD together. Not only does this make it shorter and lighter, it also uses less raw materials to produce, reducing CO₂ emitted into the atmosphere in the extraction, transportation and manufacturing processes.

100% Recyclable Packaging

Plastic packaging is a big problem globally, it can take up to 1000 years to degrade and ends up in oceans, lakes and environments where it causes pollution and kills wildlife. The all-cardboard packaging used when delivering the Dominator Eco is 100% recyclable, 100% biodegradable and FSC traceable to sustainable sources to support responsible forestry.

Paperless

The paper industry remains one of the largest consumers of water in the world, and one sheet of A4 can take up to 20 litres to produce. The Dominator Eco is paperless, the digital datasheet and installation manual can be quickly accessed via QR code on the colour coded tags and also found on the website. This small change saves around 329kg of paper being used a year, or the weight of one Grizzly Bear!

Smaller & Lighter

The Dominator Eco is 36% lighter and 28% shorter than the equivalent Dominator Peak Pro making it more efficient when shipping and transporting, you can fit more products on a single pallet.

2030 TARGETS



10% ↓

Reduction in water consumed per direct labour hour by 2030.



20% ↓

Reduction in greenhouse gas emissions per direct labour hour by 2030.



20% ↓

Reduction in electricity consumed per direct labour hour by 2030.



15% ↓

Reduction in solid non-hazardous waste per direct labour hour by 2030.

Carbon footprint reduction

One of the core values within Crane Co. businesses is the elimination of waste throughout the organisation. The Company also has a structured cadence and process to manage and measure progress of sustainability initiatives.

DE40 DN15/15

Dominator ECO Classic

Features & Benefits

- Reduced embodied carbon and simple installation by combining a PICV, H-body and FMD together, making the Dominator Eco lighter and shorter than our current Dominator Classic
- Innovative design - Unique differential pressure mechanism, ensuring accurate flow control and allowing the valve to be back flushed if required. Patent Pending
- Reliable flow measurement through the integral FMD in accordance to BS 7350
- Easily identifiable chilled and heating applications via the colour coded tags that also display the fan coil reference
- Paperless - Digital datasheet, IOM and commissioning tool can be quickly accessed via QR code on the colour coded tags
- Peace of mind - 100% of Dominator Ecos are tested before shipping. This involves pressure testing to BS EN 12266-1 and performance testing in accordance with BSRIA BTS01
- Direct mounting to FCUs – designed for easy access to components in confined spaces
- Flow regulation and ΔP verification – Utilising setting dial and integrated test points
- Comprehensive flow range available, allowing for cost effective valve selections
- PN16 rated product, suitable for building services applications

Materials

No.	Description	Material	QTY
1	Male Ended Low Flow 0.010 - 0.080l/s Male Ended Std. Flow 0.025 - 0.170l/s Male Ended High Flow 0.110 - 0.290l/s	DZR Brass BS EN 12165 (CW602N)	1
2	End Connection Sub-Assembly	DZR Brass BS EN 12165 (CW602N)	2

NOTE: Sealing gasket and O-rings material are EPDM

PICU Pressure

Operating Pressure (kPa)	20 - 400 (DN15 LF) 20 - 400 (DN15 SF) 40 - 400 (DN15 HF)
--------------------------	--

PRESSURE RATING: PN16

TEMPERATURE RATING: 0 to 90°C
WEIGHT 1.1kg

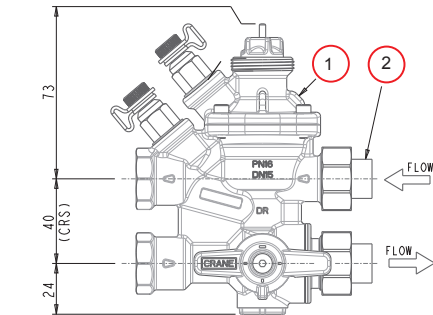
END CONNECTIONS:

Valve body - BSP Taper
Terminal end - Compression/Solder

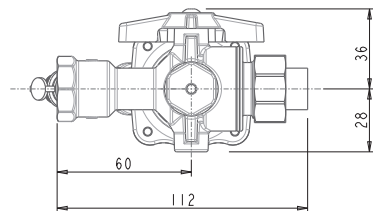
SPARES: Refer to IOM



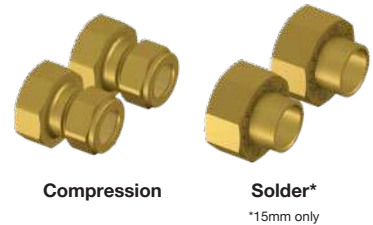
Dimensional Drawings



Available in standard or reverse handed orientations.



End Connections



PRESSURE RATING: PN16
TEMPERATURE RATING: 0 to 90°C
WEIGHT 1.1kg

END CONNECTIONS:

Valve body - BSP Taper
Terminal end - Compression/Solder

SPARES: Refer to IOM

SPECIFICATION: DZR Terminal unit valve set to be a pre-assembled unit as supplied by a single manufacturer. Unit to include a flushing bypass with integral isolation valves and Pressure Independent Commissioning Unit (PICU). Flow rate to be measurable using integral test points as per BS 7350. Flow rate to be adjustable between 0.010-0.290l/s, dependent on variant. Connections to be flat face unions between components with female BSPT on system side and compression/solder on terminal side. Unit to be manufactured from DZR Brass to BS EN 12164/5 CW602N. Valve assembly will be labelled to include the terminal unit reference number, service and part number as per Dominator Eco.

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DE40B DN15/15

Dominator ECO with
BSRIA Flushing Drains

Features & Benefits

- Innovative design – Unique differential pressure mechanism, ensuring accurate flow control and allowing the valve to be back flushed if required. Patent Pending
- Reduced embodied carbon and simple installation by combining a PICV, H-body and FMD together, making the Dominator Eco 36% lighter and 28% shorter than our current 40mm Dominator alternative
- Reliable flow measurement through the integral FMD in accordance to BS 7350
- Easily indentifiable chilled and heating applications via the colour coded tags that also display the fan coil reference
- Paperless – Digital datasheet, IOM and commissioning tool can be quickly accessed via QR code on the colour coded tags
- BSRIA BG29 compliant design – Full forward-flushing and back-flushing capabilities
- Peace of mind – 100% of Dominator Ecos are tested before shipping. This involves pressure testing to BS EN 12266-1 and performance testing in accordance with BSRIA BTS01
- Direct mounting to FCUs – Designed for easy access to components in confined spaces
- Flow regulation and ΔP verification – Utilising setting dial and integrated test points
- Comprehensive flow range available, allowing for cost effective valve selections
- PN16 rated product, suitable for building services applications
- Increased functionality and reduced material requirement – Interchangeable test points and nozzles facilitate ΔP measurement and flushing where required

Materials

No.	Description	Material	QTY
1	Male Ended Low Flow 0.010 - 0.080l/s Male Ended Std. Flow 0.025 - 1.170l/s Male Ended High Flow 0.110 - 0.290l/s	DZR Brass BS EN 12165 (CW602N)	1
2	Drain Tee Assembly – Male Captive	DZR Brass BS EN 12165 (CW602N)	2
3	End Connection Sub-Assembly	DZR Brass BS EN 12165 (CW602N)	2

NOTE: Sealing gasket and O-rings material are EPDM

PICU Pressure

Operating Pressure (kPa)	20 - 400 (DN15 LF) 20 - 400 (DN15 SF) 40 - 400 (DN15 HF)
--------------------------	--

PRESSURE RATING: PN16

TEMPERATURE RATING: 0 to 90°C
WEIGHT 1.6kg

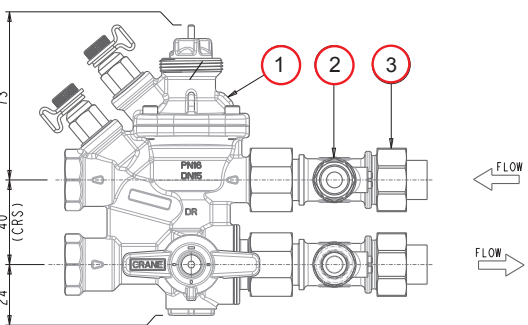
END CONNECTIONS:

Valve body - BSP Taper
Terminal end - Compression/Solder

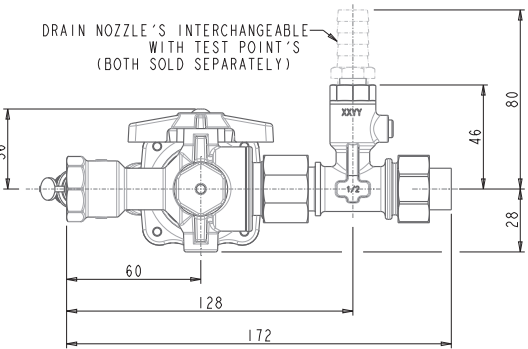
SPARES: Refer to IOM



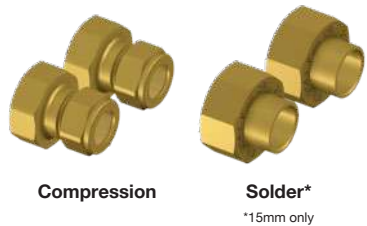
Dimensional Drawings



Available in standard or reverse handed orientations.



End Connections



SPECIFICATION: DZR Terminal unit valve set to be a pre-assembled unit as supplied by a single manufacturer. Unit to include a flushing bypass with integral isolation valves, Pressure Independent Commissioning Unit (PICU) and flushing valves to comply to BG29 guidelines. Flow rate to be measurable using integral test points as per BS 7350. Flow rate to be adjustable between 0.010-0.290l/s, dependent on variant. Connections to be flat face unions between components with female BSPT on system side and compression/solder on terminal side. Unit to be manufactured from DZR Brass to BS EN 12164/5 CW602N. Valve assembly will be labelled to include the terminal unit reference number, service and part number as per Dominator Eco.

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DE40BS DN15/15

Dominator Eco with
BSRIA Flushing Strainer



Features & Benefits

- Innovative design - Unique differential pressure mechanism, ensuring accurate flow control and allowing the valve to be back flushed if required. Patent Pending
- Reduced embodied carbon and simple installation by combining a PICV, H-body and FMD together, making the Dominator Eco 36% lighter and 22% shorter than our current 40mm Dominator alternative
- Reliable flow measurement through the integral FMD in accordance to BS 7350
- Easily identifiable chilled and heating applications via the colour coded tags that also display the fan coil reference
- Paperless - Digital datasheet, IOM and commissioning tool can be quickly accessed via QR code on the colour coded tags
- BSRIA BG29 compliant design - Full forward-flushing and back-flushing capabilities
- Peace of mind - 100% of Dominator Ecos are tested before shipping. This involves pressure testing to BS EN 12266-1 and performance testing in accordance with BSRIA BTS01
- Direct mounting to FCUs – designed for easy access to components in confined spaces
- Flow regulation and ΔP verification – Utilising setting dial and integrated test points
- System performance maintained - Fitted strainer helps filter particles and impurities in the fluid maintaining system cleanliness (if cleaned regularly)
- Comprehensive flow range available, allowing for cost effective valve selections
- PN16 rated product, suitable for building services applications
- Increased functionality and reduced material requirement - Interchangeable test points and nozzles facilitate ΔP measurement and flushing where required

Materials

No.	Description	Material	QTY
1	Male Ended Low Flow 0.010 - 0.080l/s Male Ended Std. Flow 0.025 - 0.170l/s Male Ended High Flow 0.110 - 0.290l/s	DZR Brass BS EN 12165 (CW602N)	1
2	Drain Tee Assembly – Male Captive	DZR Brass BS EN 12165 (CW602N)	2
3	End Connection Sub Assembly	DZR Brass BS EN 12164 (CW602N)	2
4	Nipple - 1/2" Part	DZR Brass BS EN 12165 (CW602N)	1
5	PN16 Strainer - D298	Bronze BS EN 1982 CC491K	1

NOTE: Sealing gasket and O-rings material are EPDM

PRESSURE RATING: PN16

TEMPERATURE RATING: 0 to 90°C
WEIGHT 1.8kg

END CONNECTIONS:

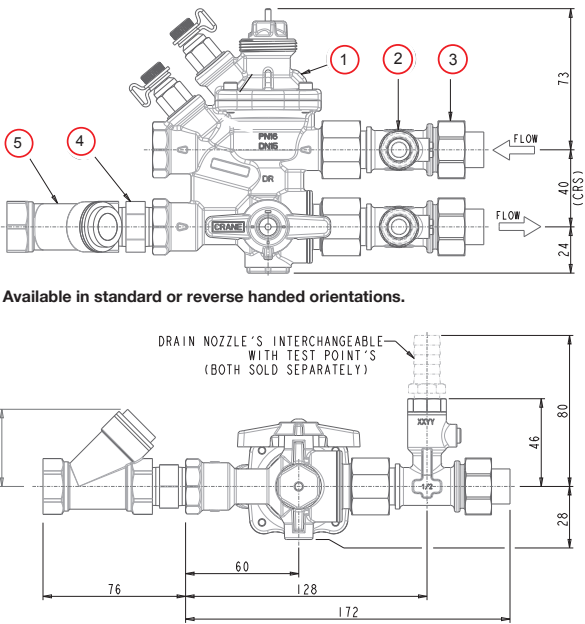
Valve body - BSP Taper
Terminal end - Compression/Solder

SPARES: Refer to IOM

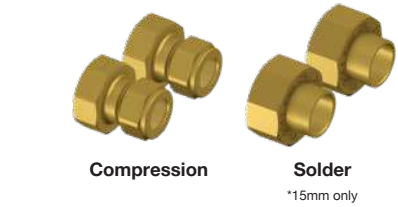
SPECIFICATION: DZR Terminal unit valve set to be a pre-assembled unit as supplied by a single manufacturer. Unit to include a flushing bypass with integral isolation valves, Pressure Independent Commissioning Unit (PICU), strainer and flushing valves to comply to BG29 guidelines. Flow rate to be measurable using integral test points as per BS 7350. Flow rate to be adjustable between 0.010-0.290l/s, dependent on variant. Connections to be flat face unions between components with female BSPT on system side and compression/solder on terminal side. Unit to be manufactured from DZR Brass to BS EN 12164/5 CW602N. Valve assembly will be labelled to include the terminal unit reference number, service and part number as per Dominator Eco.



Dimensional Drawings



End Connections



PICU Pressure

Operating Pressure Range Across Valve (kPa)	
20 - 400 (DN15 LF)	
20 - 400 (DN15 SF)	
40 - 400 (DN15 HF)	

DE40BFP DN15/15

Dominator Eco with BSRIA
Flushing Drains & 4-Port



Features & Benefits

- Innovative design - Unique differential pressure mechanism, ensuring accurate flow control and allowing the valve to be back flushed if required. Patent Pending
- Reduced embodied carbon and simple installation by combining a PICV, H-body and FMD together, making the Dominator Eco 33% lighter and 20% shorter than our current 40mm Dominator alternative
- Reliable flow measurement through the integral FMD in accordance to BS 7350
- Easily identifiable chilled and heating applications via the colour coded tags that also display the fan coil reference
- Paperless - Digital datasheet, IOM and commissioning tool can be quickly accessed via QR code on the colour coded tags
- BSRIA BG29 compliant design - Full forward-flushing and back-flushing capabilities
- Peace of mind - 100% of Dominator Ecos are tested before shipping. This involves pressure testing to BS EN 12266-1 and performance testing in accordance with BSRIA BTS01
- Direct mounting to FCUs – designed for easy access to components in confined spaces
- Flow regulation and ΔP verification – Utilising setting dial and integrated test points
- Minimum flow protection - 4-Port valve included to provide a constant flow rate irrespective of load demand
- Comprehensive flow range available, allowing for cost effective valve selections
- PN16 rated product, suitable for building services applications
- Increased functionality and reduced material requirement - Interchangeable test points and nozzles facilitate ΔP measurement and flushing where required

Materials

No.	Description	Material	QTY
1	Male Ended Low Flow 0.010 - 0.080l/s Male Ended Std. Flow 0.025 - 0.170l/s Male Ended High Flow 0.110 - 0.290l/s	DZR Brass BS EN 12165 (CW602N)	1
2	Drain Tee Assembly – Male Captive	DZR Brass BS EN 12165 (CW602N)	2
3	4-Port Valve	DZR Brass BS EN 12165 (CW602N)	1
4	Adaptor 4-Port	DZR Brass BS EN 12165 (CW602N)	4
5	End Connection Sub Assembly	DZR Brass BS EN 12165 (CW602N)	2

NOTE: Sealing gasket and O-rings material are EPDM

PRESSURE RATING: PN16

TEMPERATURE RATING: 0 to 90°C
WEIGHT 2kg

END CONNECTIONS:

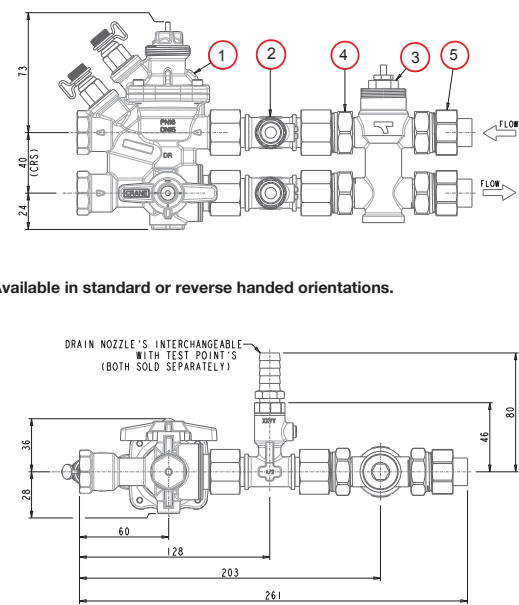
Valve body - BSP Taper
Terminal end - Compression/Solder

SPARES: Refer to IOM

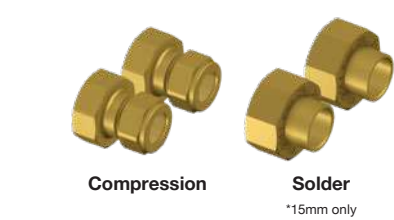
SPECIFICATION: DZR Terminal unit valve set to be a pre-assembled unit as supplied by a single manufacturer. Unit to include a flushing bypass with integral isolation valves, Pressure Independent Commissioning Unit (PICU), 4-Port and flushing valves to comply to BG29 guidelines. Flow rate to be measurable using integral test points as per BS 7350. Flow rate to be adjustable between 0.010-0.290l/s, dependent on variant. Connections to be flat face unions between components with female BSPT on system side and compression/solder on terminal side. Unit to be manufactured from DZR Brass to BS EN 12164/5 CW602N. Valve assembly will be labelled to include the terminal unit reference number, service and part number as per Dominator Eco.



Dimensional Drawings



End Connections



PICU Pressure

Operating Pressure Range Across Valve (kPa)	
20 - 400 (DN15 LF)	
20 - 400 (DN15 SF)	
40 - 400 (DN15 HF)	

DE40BSFP
DN15/15

Dominator Eco with BSRIA
Flushing Drain, Strainer & 4-Port



PN16



Features & Benefits

- Innovative design - Unique differential pressure mechanism, ensuring accurate flow control and allowing the valve to be back flushed if required. Patent Pending
- Reduced embodied carbon and simple installation by combining a PICV, H-body and FMD together, making the Dominator Eco lighter and shorter
- Reliable flow measurement through the integral FMD in accordance to BS 7350
- Easily identifiable chilled and heating applications via the colour coded tags that also display the fan coil reference
- Paperless - Digital datasheet, IOM and commissioning tool can be quickly accessed via QR code on the colour coded tags
- BSRIA BG29 compliant design - Full forward-flushing and back-flushing capabilities
- Peace of mind - 100% of Dominator Ecos are tested before shipping. This involves pressure testing to BS EN 12266-1 and performance testing in accordance with BSRIA BTS01
- Direct mounting to FCUs – designed for easy access to components in confined spaces
- Flow regulation and ΔP verification – Utilising setting dial and integrated test points
- Minimum flow protection - 4-Port valve included to provide a constant flow rate irrespective of load demand
- System performance maintained - Fitted strainer helps filter particles and impurities in the fluid maintaining system cleanliness (if cleaned regularly)
- Comprehensive flow range available, allowing for cost effective valve selections
- PN16 rated product, suitable for building services applications
- Increased functionality and reduced material requirement - Interchangeable test points and nozzles facilitate ΔP measurement and flushing where required

Materials

No.	Description	Material	QTY
1	Male Ended Low Flow 0.010 - 0.080l/s Male Ended Std. Flow 0.025 - 0.170l/s Male Ended High Flow 0.110 - 0.290l/s	DZR Brass BS EN 12165 (CW602N)	1
2	Drain Tee Assembly – Male Captive	DZR Brass BS EN 12165 (CW602N)	2
3	4-Port Valve	DZR Brass BS EN 12165 (CW602N)	1
4	Adaptor 4-Port	DZR Brass BS EN 12165 (CW602N)	4
5	End Connection Sub Assembly	DZR Brass BS EN 12165 (CW602N)	2
6	Nipple - 1/2" Part	DZR Brass BS EN 12165 (CW602N)	1
7	PN16 Strainer - D298	Bronze BS EN 1982 CC491K	1

NOTE: Sealing gasket and O-rings material are EPDM

PRESSURE RATING: PN16

TEMPERATURE RATING: 0 to 90°C
WEIGHT 2.2kg

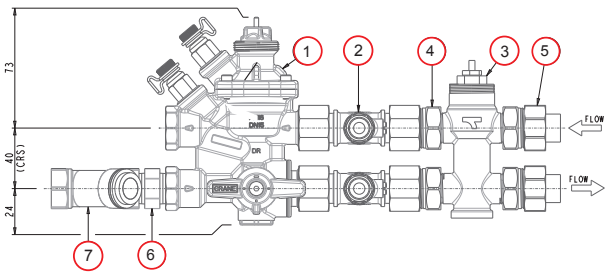
END CONNECTIONS:

Valve body - BSP Taper
Terminal end - Compression/Solder

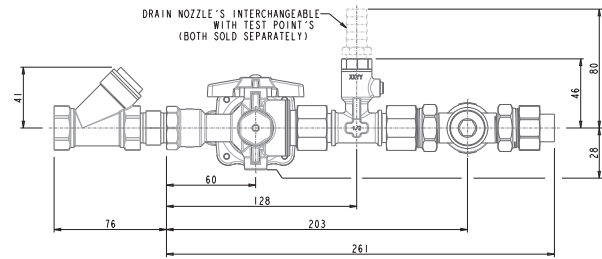
SPARES: Refer to IOM

SPECIFICATION: DZR Terminal unit valve set to be a pre-assembled unit as supplied by a single manufacturer. Unit to include a flushing bypass with integral isolation valves, Pressure Independent Commissioning Unit (PICU), strainer, 4-port and flushing valves to comply to BG29 guidelines. Flow rate to be measurable using integral test points as per BS 7350. Flow rate to be adjustable between 0.010-0.290l/s, dependent on variant. Connections to be flat face unions between components with female BSPT on system side and compression/solder on terminal side. Unit to be manufactured from DZR Brass to BS EN 12164/5 CW602N. Valve assembly will be labelled to include the terminal unit reference number, service and part number as per Dominator Eco.

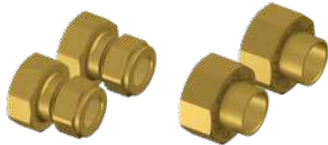
Dimensional Drawings



Available in standard or reverse handed orientations.



End Connections



Compression

Solder*

*15mm only

PICU Pressure

Operating Pressure Range Across Valve (kPa)	20 - 400 (DN15 LF)
	20 - 400 (DN15 SF)
	40 - 400 (DN15 HF)

Nine Elms
London, UK

The Nine Elms N8 Tower development comprises of one, two & three-bedroom flats and penthouses, plus commercial & retail space on the lower levels.

Crane FS Dominator Peak Pro with PICV, BSRIA Flushing Drain & FMD along with a range of general valves were chosen for this modern mixed-use project.

SECTOR

Mixed Development

LOCATION

New Covent Garden Market, London

CLIENT

St Modwen

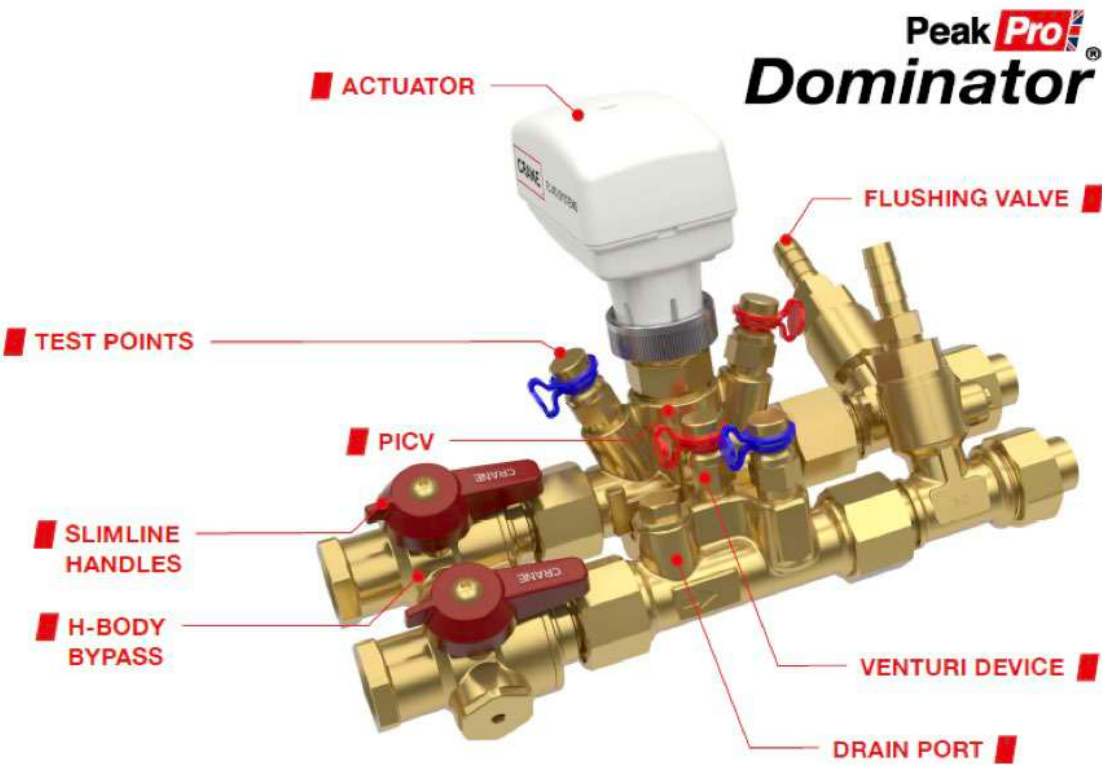
CHANNEL PARTNER

BSS



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WHY CHOOSE PEAK PRO DOMINATORS?



The Dominator Peak Pro is a compact and modular valve system that combines the Peak Pro Pressure Independent Control Valve (D995) for accurate flow, temperature and pressure control.

- 40/80mm pipe centres to fit Fan Coil Units & Chilled Beams
- Equal lengths for ease of fitting
- Highly configurable design to suit horizontal and vertical pipe arrangements
- Accommodates reduced drip tray length solder or compression adaptors 15 & 22mm
- BSRIA flushing version with full bore for effective flushing velocity

This lightweight unit is supplied with an integral Venturi metering station for an improved flow range, equal lengths through union connections and the ability to orientate the valve on-site for an easier and faster install.

The Dominator Peak Pro has been designed to deliver and maintain a system which closes the performance gap and enables energy and cost reduction over its lifetime. Every valve is subject to both a pressure test, in accordance with BS EN 12266-1, as well as a flow limitation test, in accordance to BSRIA BTS1.

Suitable for horizontal or vertical coil arrangements and available handed for 4 pipe systems. The Dominator Peak Pro not only saves installation time and reduces the product footprint but simplifies the ordering process, allows phased delivery direct to site if required and reduces the risk of failing joints.

The following pages show each available set up in the Dominator range to make sure that we cover you for every requirement possible.

DD40BSR1B DN15/15

Dominator Peak Pro with PICV,
FMD & Drain Port



PN16

Features & Benefits



- Compact design, with flow and return legs at equal lengths, for simple direct mounting onto terminal unit
- Fitted with Peak Pro with a wide range of settable flows to suit all applications
- Includes Venturi metering station for improved accuracy and pressure drop recovery
- All valves are subject to both a pressure test, in accordance with BS EN 12266-1, as well as a flow limitation test, in accordance to BSRIA BTS1. This provides reassurance of performance and accuracy within each valve
- Bypass unit with integrated 3-way isolation valves
- Integrated dial allowing for calibrated setting of the PICV with integrated test points allowing for ΔP verification

Dimensions & Weights

NOM. SIZE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	WEIGHT (kg)
DN15	70	27	33	120	179	2.0

Materials

NO.	DESCRIPTION	MATERIAL	QTY
1	H-Body Assembly	DZR Brass BS EN 12165 (CW602N)	1
2	DN15 PICV - Male Ended Low Flow 0.008 - 0.080l/s DN15 PICV - Male Ended Std Flow 0.060 - 0.200l/s DN15 PICV - Male Ended High Flow 0.100 - 0.370l/s	A DZR Brass B BS EN 12165 C (CW602N)	1
3	DN15 - High Flow FMD 4.6Kvs DN15 - Std Flow FMD 1.6Kvs DN15 - Low Flow FMD 0.62Kvs DN15 - Ultra Low Flow FMD 0.24Kvs	H S L U DZR Brass BS EN 12165 (CW602N)	1
4	Compression Adaptor	A DZR Brass BS EN 12165 (CW602N)	2
	Solder Adaptor	B DZR Brass BS EN 12165 (CW602N)	2

NOTE: Sealing gasket and O-rings material are EPDM

PICV Pressure/Temperature Ratings

TEMPERATURE (°C)	0°C to 90°C
PRESSURE (BAR)	16 Bar
OPERATING PRESSURE RANGE ACROSS VALVE (kPa)	20 - 400 (DN15 LF) 25 - 400 (DN15 SF) 40 - 400 (DN15 HF)

Example figure number guide

FIG DD40 B S R 1 B
PICV FMD STD/REV TYPE END CXN

PRESSURE RATING: PN16

TEMPERATURE RATING: 0 to 90°C

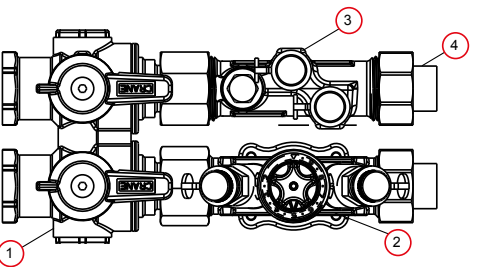
END CONNECTIONS:

H-Body - BSP Taper

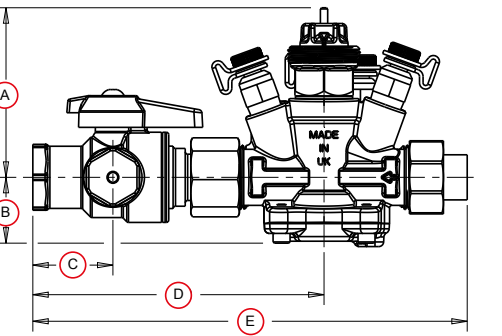
Terminal end - Compression/Solder

SPARES: Gasket 0J00889J

SPECIFICATION DZR Terminal unit valve set to be a pre-assembled unit as supplied by a single manufacturer. Unit to include a flushing bypass with integral isolation valves, PICV and Venturi style FMD with integrated drain port. Flow rate to be adjustable between 0.008 – 0.37l/s, dependent on variant. Connections to be flat face union connections between components with female BSPT on system side and compression/solder on terminal side. Unit to be manufactured from DZR Brass to BS EN 12164/5 CW602N. Valve assembly will be labelled to include the terminal unit reference number, service and flow rate. As per Crane FS Dominator Peak Pro.

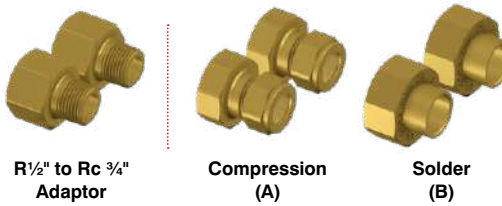


Available in standard or reverse handed orientations.
Valve angles can be configured to suit fan coil requirements.



Adaptors

End Connections



Valid as of 300718

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DD40BSR2B
DN15/15

Dominator Peak Pro with PICV,
BSRIA Flushing Drain & FMD



PN16

Features & Benefits

- Compact design, with flow and return legs at equal lengths, for simple direct mounting onto terminal unit
- Fitted with Peak Pro with a wide range of settable flows to suit all applications
- Includes Venturi metering station for improved accuracy and pressure drop recovery
- All valves are subject to both a pressure test, in accordance with BS EN 12266-1, as well as a flow limitation test, in accordance to BSRIA BTS1. This provides reassurance of performance and accuracy within each valve
- Bypass unit with integrated 3-way isolation valves
- Flushing valves on flow and return - in accordance with BSRIA BG29
- Integrated dial allowing for calibrated setting of the PICV with integrated test points allowing for ΔP verification



Dimensions & Weights

NOM. SIZE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	WEIGHT (kg)
DN15	70	27	33	120	195	239	97	2.5

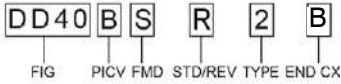
Materials

NO.	DESCRIPTION	MATERIAL	QTY
1	H-Body Assembly	DZR Brass BS EN 12165 (CW602N)	1
2	DN15 PICV - Male Ended Low Flow 0.008 - 0.080l/s DN15 PICV - Male Ended Std Flow 0.060 - 0.200l/s DN15 PICV - Male Ended High Flow 0.100 - 0.370l/s	A DZR Brass B BS EN 12165 C (CW602N)	1
3	DN15 - High Flow FMD 4.6Kvs DN15 - Std Flow FMD 1.6Kvs DN15 - Low Flow FMD 0.62Kvs DN15 - Ultra Low Flow FMD 0.24Kvs	H S L U DZR Brass BS EN 12165 (CW602N)	1
4	DN15 Flushing Valve	DZR Brass BS EN 12165 (CW602N)	2
5	Compression Adaptor	A DZR Brass BS EN 12165 (CW602N)	2
	Solder Adaptor	B DZR Brass BS EN 12165 (CW602N)	2

NOTE: Sealing gasket and O-rings material are EPDM

PICV Pressure/Temperature Ratings

TEMPERATURE (°C)	0°C to 90°C
PRESSURE (BAR)	16 Bar
OPERATING PRESSURE RANGE ACROSS VALVE (kPa)	20 - 400 (DN15 LF) 25 - 400 (DN15 SF) 40 - 400 (DN15 HF)



PRESSURE RATING: PN16

TEMPERATURE RATING: 0 to 90°C

END CONNECTIONS:

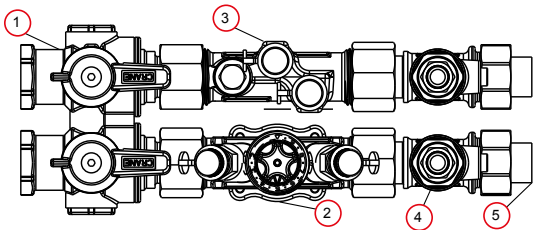
H-Body - BSP Taper
Terminal end - Compression/Solder

SPARES: Gasket 0J00889J

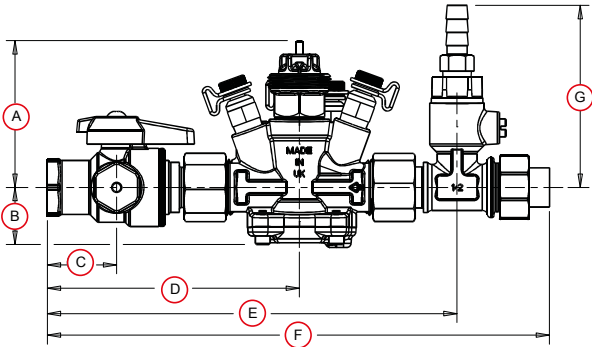
SPECIFICATION DZR Terminal unit valve set to be a pre-assembled unit as supplied by a single manufacturer. Unit to include a flushing bypass with integral isolation valves, PICV, Venturi style FMD and flushing valves to comply to BG29 guidelines. Flow rate to be adjustable between 0.008 – 0.37l/s, dependent on variant. Connections to be flat face union connections between components with female BSPT on system side and compression/solder on terminal side. Unit to be manufactured from DZR Brass to BS EN 12164/5 CW602N. Valve assembly will be labelled to include the terminal unit reference number, service and flow rate. As per Crane FS Dominator Peak Pro.



Dimensional Drawings

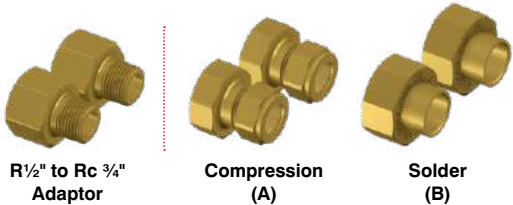


Available in standard or reverse handed orientations.
Valve angles can be configured to suit fan coil requirements.



Adaptors

End Connections



DD40BSR2BS
DN15/15

Dominator Peak Pro with PICV,
BSRIA Flushing Drain, FMD & Strainer



PN16

Features & Benefits

- Compact design, with flow and return legs at equal lengths, for simple direct mounting onto terminal unit
- Fitted with Peak Pro with a wide range of settable flows to suit all applications
- Includes Venturi metering station for improved accuracy and pressure drop recovery
- All valves are subject to both a pressure test, in accordance with BS EN 12266-1, as well as a flow limitation test, in accordance to BSRIA BTS1. This provides reassurance of performance and accuracy within each valve
- Bypass unit with integrated 3-way isolation valves
- Flushing valves on flow and return - in accordance with BSRIA BG29
- Integrated dial allowing for calibrated setting of the PICV with integrated test points allowing for ΔP verification
- Fitted strainer makes a significant contribution to the reliability of a piping system, and ensures performance is maintained over the lifetime of the system (if cleaned regularly). The strainer filters particles and impurities in the fluid, protecting hydronic equipment such as pumps, control valves, heat exchangers etc.

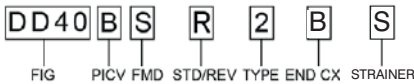
Dimensions & Weights

NOM. SIZE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	WGT (kg)
DN15	70	27	33	120	195	239	97	41	36	76	2.8

Materials

NO.	DESCRIPTION	MATERIAL	QTY
1	H-Body Assembly	DZR Brass BS EN 12165 (CW602N)	1
2	DN15 PICV - Male Ended Low Flow 0.008 - 0.080l/s DN15 PICV - Male Ended Std Flow 0.060 - 0.200l/s DN15 PICV - Male Ended High Flow 0.100 - 0.370l/s	A DZR Brass B BS EN 12165 C (CW602N)	1
3	DN15 - High Flow FMD 4.6Kvs DN15 - Std Flow FMD 1.6Kvs DN15 - Low Flow FMD 0.62Kvs DN15 - Ultra Low Flow FMD 0.24Kvs	H S L U DZR Brass BS EN 12165 (CW602N)	1
4	DN15 Flushing Valve	DZR Brass BS EN 12165 (CW602N)	2
5	Compression Adaptor	A DZR Brass BS EN 12165 (CW602N)	2
	Solder Adaptor	B DZR Brass BS EN 12165 (CW602N)	2
6	Strainer	Bronze BS EN 1982 (CC491K)	1

NOTE: Sealing gasket and O-rings material are EPDM



PRESSURE RATING: PN16

TEMPERATURE RATING: 0 to 90°C

END CONNECTIONS:

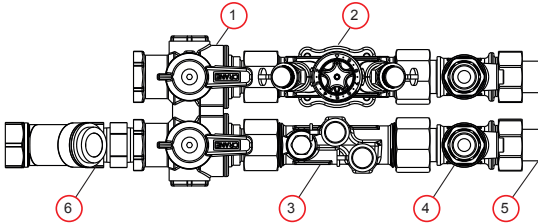
H-Body - BSP Taper
Terminal end - Compression/Solder

SPARES: Gasket 0J00889J

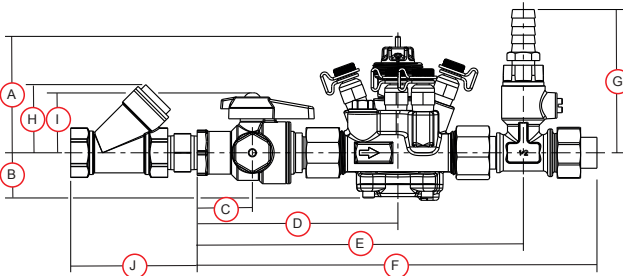
SPECIFICATION DZR Terminal unit valve set to be a pre-assembled unit as supplied by a single manufacturer. Unit to include a flushing bypass with integral isolation valves, PICV, Venturi style FMD and flushing valves to comply to BG29 guidelines. Flow rate to be adjustable between 0.008 – 0.37l/s, dependent on variant. Connections to be flat face union connections between components with female BSPT on system side and compression/solder on terminal side. Unit to be manufactured from DZR Brass to BS EN 12164/5 CW602N. Valve assembly will be labelled to include the terminal unit reference number, service and flow rate. As per Crane FS Dominator Peak Pro.



Dimensional Drawings

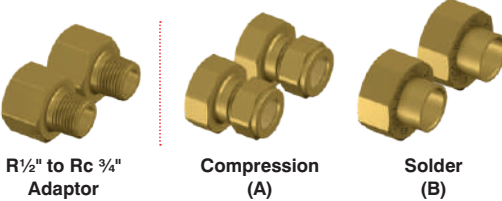


Available in standard or reverse handed orientations.
Valve angles can be configured to suit fan coil requirements.



Adaptors

End Connections



PICV Pressure/Temperature Ratings

TEMPERATURE (°C)	0°C to 90°C
PRESSURE (BAR)	16 Bar
OPERATING PRESSURE RANGE ACROSS VALVE (kPa)	20 - 400 (DN15 LF) 25 - 400 (DN15 SF) 40 - 400 (DN15 HF)



DD40BSS4B
DN15/15

Dominator Peak Pro with PICV,
BSRIA Flushing Drain & 4-Port



PN16

Features & Benefits

- Compact design, with flow and return legs at equal lengths, for simple direct mounting onto terminal unit
- Fitted with Peak Pro with a wide range of settable flows to suit all applications
- Includes Venturi metering station for improved accuracy and pressure drop recovery
- All valves are subject to both a pressure test, in accordance with BS EN 12266-1, as well as a flow limitation test, in accordance to BSRIA BTS1. This provides reassurance of performance and accuracy within each valve
- Bypass unit with integrated 3-way isolation valves
- Flushing valves on flow and return - in accordance with BSRIA BG29
- Integrated dial allowing for calibrated setting of the PICV with integrated test points allowing for ΔP verification



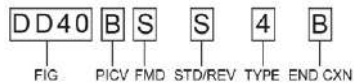
Dimensions & Weights

NOM. SIZE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	WEIGHT (kg)
DN15	70	28	33	120	195	270	328	97	36	3.0

Materials

NO.	DESCRIPTION	MATERIAL	QTY
1	H-Body Assembly	DZR Brass BS EN 12165 (CW602N)	1
2	DN15 PICV - Male Ended Low Flow 0.008 - 0.080l/s DN15 PICV - Male Ended Std Flow 0.060 - 0.200l/s DN15 PICV - Male Ended High Flow 0.100 - 0.370l/s	A DZR Brass B BS EN 12165 (CW602N) C	1
3	DN15 - High Flow FMD 4.6Kvs DN15 - Std Flow FMD 1.6Kvs DN15 - Low Flow FMD 0.62Kvs DN15 - Ultra Low Flow FMD 0.24Kvs	H S L U	1
4	DN15 Flushing Valve	DZR Brass BS EN 12165 (CW602N)	2
5	4-Port Valve (Sized to suit specification)	DZR Brass BS EN 12165 (CW602N)	1
6	Compression Adaptor	A DZR Brass BS EN 12165 (CW602N)	2
	Solder Adaptor	B DZR Brass BS EN 12165 (CW602N)	2

NOTE: Sealing gasket and O-rings material are EPDM



PRESSURE RATING: PN16

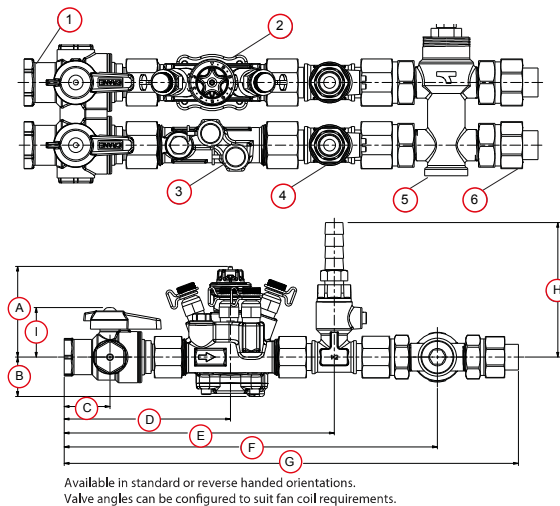
TEMPERATURE RATING: 0 to 90°C

END CONNECTIONS:

H-Body - BSP Taper
Terminal end - Compression/Solder

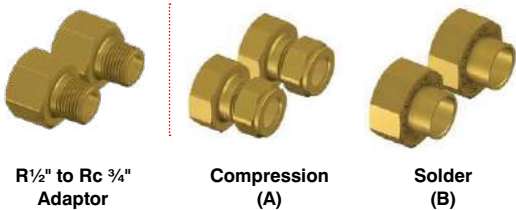
SPARES: Gasket 0J00889J

SPECIFICATION DZR Terminal unit valve set to be a pre-assembled unit as supplied by a single manufacturer. Unit to include a flushing bypass with integral isolation valves, PICV, Venturi style FMD and flushing valves to comply to BG29 guidelines. Flow rate to be adjustable between 0.008 – 0.37l/s, dependent on variant. Connections to be flat face union connections between components with female BSPT on system side and compression/solder on terminal side. Unit to be manufactured from DZR Brass to BS EN 12164/5 CW602N. Valve assembly will be labelled to include the terminal unit reference number, service and flow rate. As per Crane FS Dominator Peak Pro.



Adaptors

End Connections



PICV Pressure/Temperature Ratings

TEMPERATURE (°C)	0°C to 90°C
PRESSURE (BAR)	16 Bar
OPERATING PRESSURE RANGE ACROSS VALVE (kPa)	20 - 400 (DN15 LF) 25 - 400 (DN15 SF) 40 - 400 (DN15 HF)



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Z9601PF

Dominator Peak Pro with PICV,
Strainer Drain, FMD & Flushing Drains



PN16

Features & Benefits

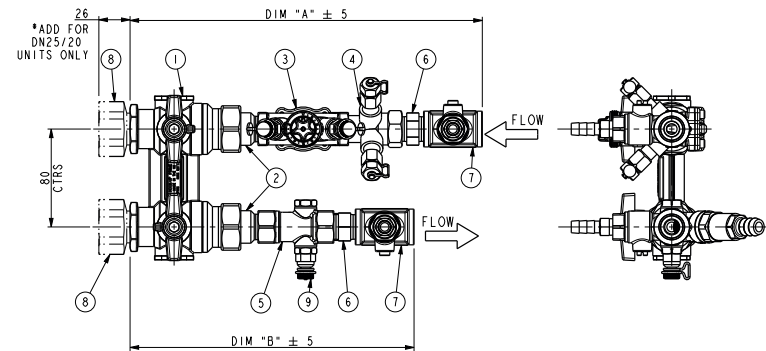
- Compact, pre-fabricated unit – now available with Peak Pro PICV with a wide range of settable flows to suit all applications
- All valves are subject to both a pressure test, in accordance with BS EN 12266-1, as well as a flow limitation test, in accordance to BSRIA BTS1. This provides reassurance of performance and accuracy within each valve
- Provides accurate flow rates & differential pressure control as well as flow measurement (Z9601PF), system flushing and isolation
- DZR H Body tested to 3.1X Design Working Pressure (DWP) during development for design robustness and tested to EN12516-2 to comply with the Pressure Equipment Directive (PED)
- Fully assembled & factory tested unit reduces installation time, costs and specification risks
- The D995 PICV is available in 400kPa and 800kPa rated variants
- On-Off, modulating or feedback actuators are available separately to match specification



Materials

ITEM	PART	MATERIAL	SPECIFICATION	QTY
1	Bypass H-Body DN20	DZR Brass	BS EN 12165 (CW602N)	1
2	Tailpiece	DZR Brass	BS EN 12165 (CW602N)	2
3	D995 PICV	DZR Brass	BS EN 12165 (CW602N)	1
4	D901 & D902 FMD	DZR Brass	BS EN 12165 (CW602N)	1
5	D299P Strainer Drain	DZR Brass	BS EN 12165 (CW602N)	1
6	J44 Nipple	DZR Brass	BS EN 12164 (CW602N)	2
7	Drain Tee	DZR Brass	BS EN 12165 (CW602N)	2
8	DN20 to DN25 Adapter	DZR Brass	BS EN 12165 (CW602N)	2
9	P84 Test Points	Brass	BS EN 12164 (CW602N)	1

Dimensional Drawings



PRESSURE RATING: PN16

TEMPERATURE RATING: -10 to 100°C

END CONNECTIONS:

Flushing By-pass body - BSP Taper,
Strainers & Tailpieces - BSP Taper

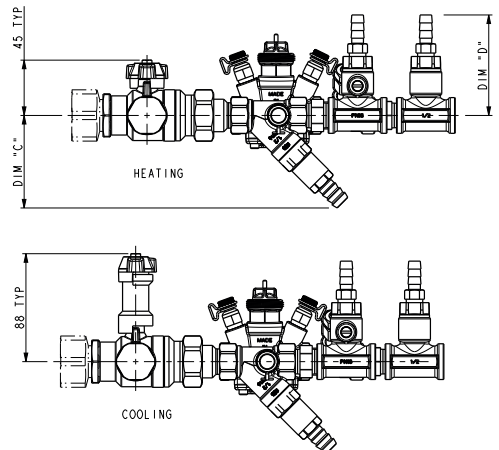
SPECIFICATION DZR Brass (BS EN 12165) fan-coil valve/terminal unit valve assembly. Preassembled to the requirements of each individual terminal unit to include a flushing by-pass with integral isolation valve. Peak Pro Pressure Independent Control Valve (PICV), with options for low flow to high flow, flow measurement device, strainer, drain and pressure test points as and where specified. On-Off of modulating actuator is required to control the PICV. Valve assembly will be labelled to include the terminal reference number and flow rate. Generally as Crane Z9601PF Dominator Peak Pro system with PICV.



Dimensions & Weights

SIZE (DN)	A (mm)	B (mm)	C (mm)	D (mm)	VALVE WEIGHT (kg)
Z9601PF DN15/15	269	214	76	83	3.4
Z9601PF DN20/15	288	232	76	83	3.8
Z9601PF DN20/20	304	240	82	93	4.2
Z9601PF DN25/20	330	266	82	93	4.2

*See drawings below
Note: LF variant only available in DN15



Valid as of 28/06/21

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Z9701P

Dominator Peak Pro with PICV & Drain

Z9701PF

Dominator Peak Pro with PICV, Drain and FMD



PN16



Features & Benefits

- Compact, pre-fabricated unit – now available with Peak Pro PICV with a wide range of settable flows to suit all applications
- All valves are subject to both a pressure test, in accordance with BS EN 12266-1, as well as a flow limitation test, in accordance to BSRIA BTS1. This provides reassurance of performance and accuracy within each valve
- Provides accurate flow rates & differential pressure control as well as flow measurement (Z9701PF), system flushing and isolation
- DZR H Body tested to 3.1X Design Working Pressure (DWP) during development for design robustness and tested to EN12516-2 to comply with the Pressure Equipment Directive (PED)
- Fully assembled & factory tested unit reduces installation time, costs and specification risks
- Available with and without extension stems to suit customer specification
- Available in 400 kPa & 800 kPa rated variants
- On-Off, modulating or feedback actuators are available separately to match specification



Z9701P



Z9701PFEXT

Materials

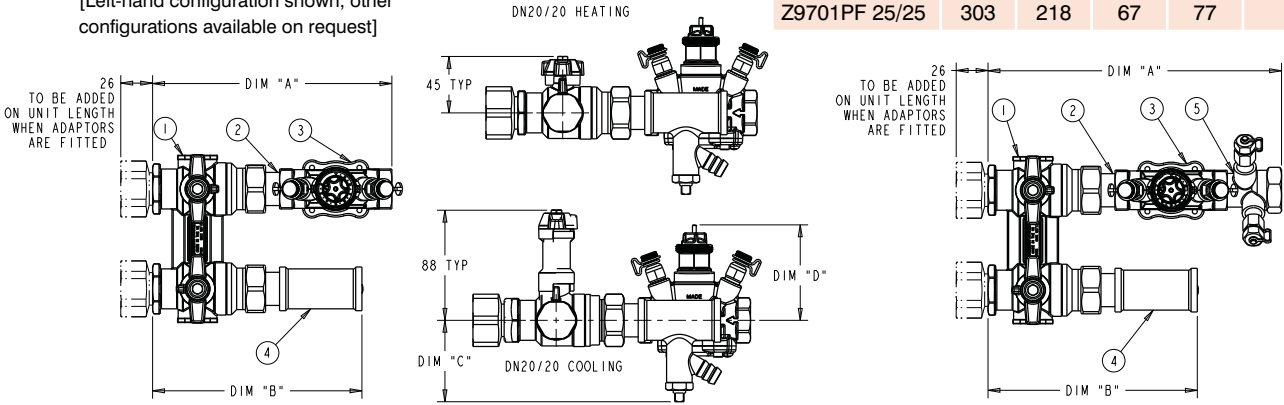
NO.	PART	MATERIAL	SPECIFICATION
1	Bypass H-Body	DZR Brass	BS EN 12165 (CW602N)
2	Tailpiece	DZR Brass	BS EN 12164 (CW602N)
3	D995 PICV	DZR Brass	BS EN 12165 (CW602N)
4	D342 Drain	Bronze	BS EN 1982 (CC491K)
5	D901/ D902 FMD	DZR Brass	BS EN 12164 (CW602N)

Dimensions & Weights

SIZE (DN)	A (mm)	B (mm)	C (mm)	D (mm)	VALVE WEIGHT (kg)
Z9701P 15/15	160	138	60	67	2.0
Z9701P 20/15	179	157	60	67	2.61
Z9701P 20/20	192	168	66	77	2.98
Z9701P 25/20	218	194	66	77	3.28
Z9701P 25/25	254	218	67	77	4.53
Z9701PF 15/15	204	138	60	67	2.2
Z9701PF 20/15	223	157	60	67	2.75
Z9701PF 20/20	236	168	66	77	3.21
Z9701PF 25/20	262	194	66	77	3.58
Z9701PF 25/25	303	218	67	77	4.86

Dimensional Drawings

[Left-hand configuration shown, other configurations available on request]



PRESSURE RATING: PN16
TEMPERATURE RATING: -10 to 100°C
END CONNECTIONS: Flushing By-pass body - BSP Taper, Strainers & Tailpieces - BSP Taper

SPECIFICATION DZR Brass (BS EN 12165) fan-coil valve/terminal unit valve assembly. Preassembled to the requirements of each individual terminal unit to include a flushing by-pass with integral isolation valves, Peak Pro Pressure Independent Control Valve (PICV), with options for low flow to high flow, flow measurement device, drain and pressure test points as and where specified. Extended handles will be fitted for Chilled Water applications. On-Off, feedback or modulating actuator is required to control the PICV. Generally as Crane FS Z9701P & Z9701PF Dominator Peak Pro system with PICV.

Valid as of 0250920

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Z9801P

Dominator Peak Pro with PICV & Strainer Drain

Z9801PF

Dominator Peak Pro with PICV, Strainer Drain and FMD



PN16



Features & Benefits

- Compact, pre-fabricated unit – now available with Peak Pro PICV with a wide range of settable flows to suit all applications
- All valves are subject to both a pressure test, in accordance with BS EN 12266-1, as well as a flow limitation test, in accordance to BSRIA BTS1. This provides reassurance of performance and accuracy within each valve
- Provides accurate flow rates & differential pressure control as well as flow measurement (Z9801PF), system flushing and isolation
- DZR H Body tested to 3.1X Design Working Pressure (DWP) during development for design robustness and tested to EN12516-2 to comply with the Pressure Equipment Directive (PED)
- Fully assembled & factory tested unit reduces installation time, costs and specification risks
- Available with and without extension stems to suit customer specification
- Available in 400kPa & 800kPa rated variants
- On-Off, modulating or feedback actuators are available separately to match specification



Z9801P



Z9801PFEXT

Materials

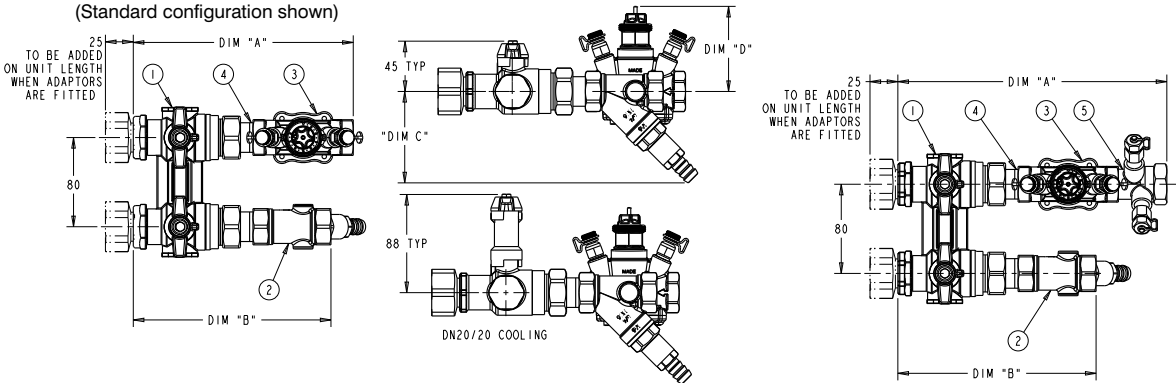
NO.	PART	MATERIAL	SPECIFICATION
1	Bypass H-Body	DZR Brass	BS EN 12165 (CW602N)
2	D299P Strainer Drain	DZR Brass	BS EN 12165 (CW602N)
3	D995 PICV	DZR Brass	BS EN 12165 (CW602N)
4	Tailpiece	DZR Brass	BS EN 12164 (CW602N)
5	D901/ D902 FMD	DZR Brass	BS EN 12164 (CW602N)

Dimensions & Weights

SIZE (DN)	A (mm)	B (mm)	C (mm)	D (mm)	VALVE WEIGHT (kg)
Z9801P 15/15	160	148	76	67	2.15
Z9801P 20/15	184	173	76	67	2.54
Z9801P 20/20	197	178	82	77	2.91
Z9801P 25/20	197	178	82	77	2.91
Z9801P 25/25	248	224	89	77	4.22
Z9801PF 15/15	204	148	76	67	2.35
Z9801PF 20/15	229	173	76	67	2.75
Z9801PF 20/20	241	178	82	77	3.21
Z9801PF 25/20	261	198	82	77	3.51
Z9801PF 25/25	298	224	89	77	4.55

Dimensional Drawings

(Standard configuration shown)



PRESSURE RATING: PN16
TEMPERATURE RATING: -10 to 100°C
END CONNECTIONS: Flushing By-pass body - BSP Taper, Strainers & Tailpieces - BSP Taper

SPECIFICATION DZR Brass (BS EN 12165) fan-coil valve/terminal unit valve assembly. Preassembled to the requirements of each individual terminal unit to include a flushing by-pass with integral isolation valves, Peak Pro Pressure Independent Control Valve (PICV), with options for low flow to high flow, flow measurement device, strainer, drain and pressure test points as and where specified. Extended handles will be fitted for Chilled Water applications. On-Off or modulating actuator is required to control the PICV. Valve assembly will be labelled to include the terminal unit reference number and flow rate. Generally as Crane FS Z9801P & Z9801PF Dominator Peak Pro system with PICV.

Valid as of 250920

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INSULATION JACKET FOR Z9801P & Z9801PF

DN15 to DN25

Features & Benefits

Compact insulation solution - resulting in high performance, energy saving valves.

- **Installation** - Easy to install & remove.
When servicing or inspection is required the Hook & Loop fastenings & pull string allow easy access or removal.
- **Sustainability** - Removable and reusable, the jackets are a fantastic way to help protect the environment.
Insulating the Dominator with a jacket instead of hard insulation prevents unnecessary waste being discarded once removed for servicing or inspection.
- **Footprint** - Designed to be compact with a small foot print.
Ensures storage and shipping emissions are reduced throughout the supply chain.
- **Energy Saving** - Saves money on energy bills.
Compared to hard insulation versions, the jacket significantly reduces the gaps around the valve, reducing heat loss & increasing system efficiency.
- **Safety** - Fire Safety rating BS EN13501-1 Class A1
We pride ourselves on providing the highest safety rating on the market.
- **Performance** - 72hr continuous ambient temperature testing.
Rigorous steam ambient testing to ensure the jacket gives you the highest performance.

Item	Material Properties
Insulating Material	• 25mm Thick Glass Wool • Fire Protection to BS EN13501-1 Class A1 • Thermal Conductivity (0.034 W/mK at 0°C to 0.042 W/mK at 50°C) BS EN12667
Covering	• 25mm Thick Glass Wool • Fire Protection to BS EN13501-1
Hook & Loop	• 100% Polyamide • Woven with cold cutting sewing edges • Temperature range -30°C to 140°C
Pull Cord	• Braided Spun Polyester Cord • Melting point 230°C

Weather Resistance

ISO Accreditations
ISO 20340:2009 – performance requirements for protective paint systems for offshore Structures for 4,200 hours in cycles of • 72 hours accelerated UV weathering ISO 11507 • 72 hours neutral salt spray exposure ISO 9227 • 24hrs stead state low- temperature testing at -20°C



Insulation hoses are offered as a separate item and are not covered in this data sheet.

Care instructions:

When installing insulation jackets sometimes they can become dirty, sticky, or dusty.

✓	• Wash with mild soap or detergent mixed with warm water. • Rinse with clean water adequately. • Wipe the surface completely clean with dry cloth or dry towel.
✗	• Do not leave any water stains or markings on the surface of the jacket. • Do not use abrasive cleaners that will scratch the surface.* • Do not use Steel Wool / Steel Brushes. • Do not drag rough items across the surface. • Do not use Bleach or other cleaners that contain chlorine.

*scratches are not visible depending on what has scratched it.

Part Numbers

Insulation Jacket for Z9801P Dominator without FMD	
Size	Part Number
DN15	0JG93322D
DN20	0JG93323E
DN25	0JG93324F

Insulation Jacket for Z9801PF Dominator with FMD	
Size	Part Number
DN15	0JG93458U
DN20	0JG93459V
DN25	0JG93460N

300MM INSULATED BRAIDED HOSES

DN15 to DN25

Features & Benefits

- Flexible design of the hose enables the connection between the fan coil unit and the pump with using no additional fitting requirement (elbows etc.), reducing the time spent on assemblies and overall cost.
- Insulated hoses prevent sweating which may exist in heating and cooling systems.
- Braided hoses reduce noise and vibration.
- Special welding process prevents potential corrosion caused by moisture around the connection points.
- Available in male x male and male x female configurations.
- Hose Length: 300mm
- Temperature Range: -270/600°C
- Insulation Thickness: 9mm
- Tube Material: Stainless Steel AISI 304
- Hose Material: EDPM
- Connections: Carbon Steel/Stainless Steel



PN16 Rated

Part Number	Description	Hose I/D	Threaded Connection I/D	Connections
0JG93462Q	DN15x15 MxM	15mm	15mm	1/2" BSP male x 1/2" BSP male
0JG93463R	DN20x20 MxM	19mm	19mm	3/4" BSP male x 3/4" BSP male
0JG93464S	DN25x25 MxM	25mm	25mm	1" BSP male x 1" BSP male
0JG93465T	DN15x15 MxF	15mm	15mm	1/2" BSP male x 1/2" BSP female
0JG93466U	DN20x20 MxF	19mm	19mm	3/4" BSP male x 3/4" BSP female
0JG93467V	DN25x25 MxF	25mm	25mm	1" BSP male x 1" BSP female



ACTUATOR OPTIONS

Electro-Mechanical Actuators – Modulating

Forced convection (active) terminal units, i.e. FCU (Fan Coil Units) and active Chilled Beams are designed to be very responsive to changes in room temperature. Modulating actuators enable flow rate changes, and consequently heat output changes, to quickly match demand requirements, therefore, modulating actuators should be chosen for forced convection terminal units. Modulating actuators allow all intermediate flow rates between full flow and no flow.



Feedback

ACTD995FB is a Feedback actuator allowing modulating control with 0-10V positional feedback signal function.

The feedback signal can be used by an external monitoring system to compare with control signal in order to check for ensure system is functioning correctly.

Application	Fig No.	Part No	Function	Voltage	Cable Length	IP Rating	PICV SIZE
FAN COIL UNIT & ACTIVE CHILLED BEAMS	ACT991M	0EA08739E	MODULATING GAP DETECTION	24VAC/DC (0-10V CONTROL SIGNAL)	1.5m	IP54	DN15-50
	ACTD995FB	0JG93140Y	FEEDBACK MODULATING GAP DETECTION				
	ACTD995FS	0JG93442L (OPEN)	FAIL SAFE MODULATING GAP DETECTION (OPEN/ CLOSED)				
		0JG93443M (CLOSED)					
FAN COIL UNIT	ACT991TP	0EA08740W (24V) 0JG92774A (230V)	3 POINT FLOATING	24VAC/DC or 230V	0.65m	IP44	DN15-25
PASSIVE CHILLED BEAMS	ACT991TH	0JG93474U (24V) 0JG93475V (230V)	THERMAL ON/OFF (NORMALLY CLOSED)				



Fail Safe

ACTD995FS is a Fail Safe actuator designed to protect the equipment and the system from damage, while enhancing overall efficiency.

In the event of a disruption to the power supply the actuator will drive either open or closed, powered by an internal super capacitor.

The failsafe actuator can be fully configured using the user-friendly configuration tool (available separately).

Failsafe models include 0-10V positional feedback signal function.

ACTUATORS

ACT991M / ACTD995FB / ACTD995FS / ACT991TP / ACT991TH

Features & Benefits

- **ACT991M** is a modulating actuator providing proportional (equal percentage) control. This now includes a stem gap detection innovation, which reduces onsite adjustments and results in easier installation and commissioning. The gap detection feature matches the stroke length of the valve during calibration, ensuring the actuator conversion to equal percentage is accurate and gives the desired flow control across all valve settings for the operating differential pressure range.
- **ACTD995FB** is a Feedback actuator allowing proportional control with 0-10V with position feedback signal function.
- **ACTD995FS** is a Fail Safe actuator designed to protect the equipment and the system from damage, while enhancing overall efficiency
- **ACT991TP** is a 3-point actuator (or floating point) electromechanical actuator for use where thermal actuators are not suitable.
- **ACT991TH** is a thermal actuator designed for ON/OFF control. Thermal actuators are small, light, and therefore a good choice for confined spaces.
- All feature an LED for the indication of the operating status*.

* Excludes ACT991TH

Materials

	Material
Cover	Thermoplastic
Yoke	PA66 - Glass Mineral filled
Thread Nut	Brass CuZn40Pb2 Thermoplastic - ACT991TH Only

Dimensions & Weights

Fig No.	Cable Length	A (mm)	B (mm)	C (mm)	Weight (kg)
ACT991M	1.5m	79.5	80	49	0.2
ACTD995FB					
ACTD995FS					
ACT991TP					
ACT991TH	0.65m	70	46	38.5	0.1

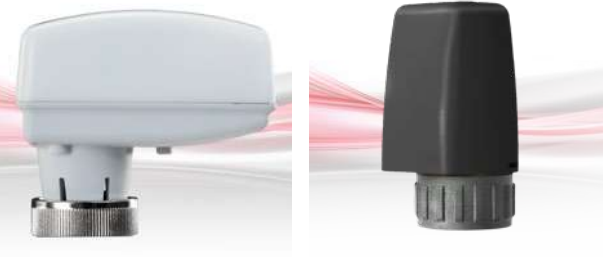
Technical Specification

Actuator Type	Power Supply	Control Signal	Configurations	Control Type	Nominal Force	Stroke Length	Running Time	Protection Class	Connections	Calibration
ACT991M	24VAC/DC	0 - 10V DC	Direct acting	Proportional	140N	6.3mm max	8 sec/mm	IP54	M30 x 1.5	Self Calibrating
ACTD995FB		0 - 5V DC	Direct acting		160N					
ACTD995FS		2 - 10V DC 4 - 20mA	Reverse acting		160N		13 sec			
ACT991TP	24VAC/DC (230V Available)	N/A	N/A	Raise / Lower	140N	4mm max (nominal)	5 min	IP44		
ACT991TH				ON/OFF	170N					

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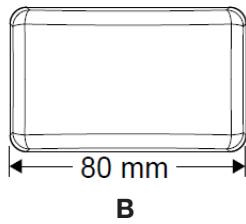
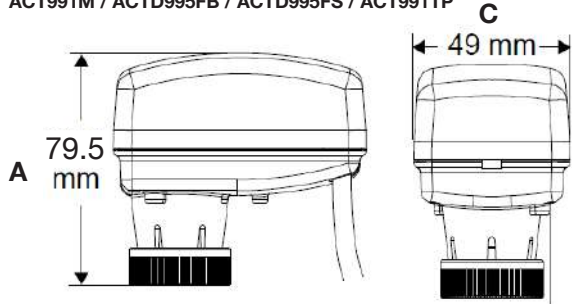
ACT991M / ACTD995FB / ACTD995FS / ACT991TP

ACT991TH

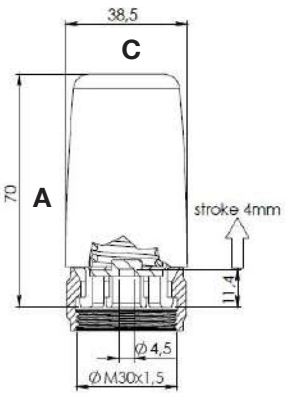
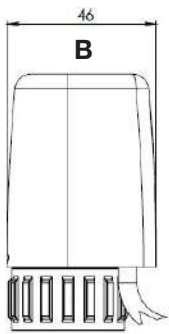


Dimensional Drawing

ACT991M / ACTD995FB / ACTD995FS / ACT991TP



ACT991TH





To visit our Video Library go to:
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